

Office of Environmental Health and Safety

Onsite Rule Development Committee Report

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Executive Summary—

The Onsite Wastewater Rule Development Committee (RDC) was formed to revise the current rule regulating onsite sewage systems (OSS). In order to accomplish this the Department of Health (DOH) assembled a diverse committee from the onsite industry, regulators, environmental groups and members of the public. The RDC consisted of 24 members and their alternates.

The committee was charged to develop a balanced up-to-date rule that protects public health and the environment while meeting the needs of the consumer and regulated industry. The group was professionally facilitated to ensure an open and inclusive process, and to help meet the goal of presenting the State Board of Health (SBOH) with recommendations decided by consensus.

This rule revision process was unique for DOH. All members of the RDC decided what issues needed revision, discussed perspectives, identified policy options, and voted on proposed rule revision. DOH participated as an equal member of the committee. The result is a draft rule with the majority of recommended changes decided by consensus. A result of this group “decision by consensus” framework is that, while discussions were many and extensive, decisions and recommendation for change are somewhat limited.

A few issues brought out widely different perspectives. As such, recommendations for change could not be reached unanimously. In these cases, decisions were made based on a two-thirds majority vote. A few RDC members submitted minority reports on specific issues. These are referenced in the text and are included in Appendix C so that the SBOH will be aware of these minority opinions.

This report summarizes the current status, the RDC proposal (Appendix A, Chapter 246-272A DRAFT Rule), and the effective changes for a range of topics, including:

- ❑ **Administrative & Policy Matters**
 - Product Registration
 - Product Development Permits
 - Operation, Monitoring, and Maintenance (O&M)
 - Minimum Land Area
- ❑ **Technical Matters**
 - Changes relating to the siting, component selection, system performance, design, installation, repair, replacement, and monitoring of onsite sewage systems

Introduction:

The primary motivation for the formation of the RDC was a recommendation made by the Onsite Wastewater Advisory Committee (OAC). The OAC (a committee established in the current rule) was charged with making recommendation regarding DOH policy and regulations, reviewing program services and advising the department about the onsite Wastewater Management Program. High on the list of policy-related recommendations was the need to revise the onsite rules. These rules were last revised in 1995.

The rule under revision is Chapter 246-272 WAC On-Site Sewage Systems, Rules and Regulations of the State Board of Health (SBOH) with authority granted in RCW 43.20.050.

In November 2001 the SBOH directed DOH to begin the rule development process. To assist the department in this activity an advisory group, the Onsite Rule Development Committee (RDC) was formed. The RDC met 16 times, from February 2002 through November 2003. The charge of the RDC was to come to agreement on proposed revisions to the onsite rule.

The process chosen for this rule development was new to DOH. Instead of the traditional agency-driven process, with a strong leadership role for the department, DOH had one member on the committee. The committee consisted of 24 members and their alternates and the membership was a balance of onsite industry with public health professionals. Members were asked to report back to their constituents / stakeholders regularly.

Due in large part to the size of the RDC and the significance of the topics, the department provided a coordinator and a rule writer to the committee. The department also contracted for a professional facilitator. To maintain a link with the SBOH, a SBOH staff-member served as a liaison between the RDC and the SBOH rule sponsor, Carl Osaki.

RDC Membership:

The RDC was comprised of 24 members and 15 alternates.

- Nine industry representatives.
- Seven local (4), state (Ecology and Health) and federal (Indian Health) regulators.
- Three from tribal and county governments.
- Five from the public (2 consumers), environmental groups (2), and academia (1 soil scientist).

In addition to the RDC, the Technical Review Committee (TRC) assisted the RDC by identifying which of the existing standards for location, soil and site evaluation, design, installation, expansion, or minimum land area needed to be changed for the rules to reflect current knowledge. The TRC, a long-standing advisory committee, consists of representatives from industry and public health.

Process:

The RDC tried to make decisions based on consensus. Many issues were decided unanimously. A few were decided with a two-thirds or a simple majority vote. The RDC decided that when consensus on a specific issue could not be reached the report to the SBOH would reflect the majority opinion and members could submit minority reports (see Appendix C). The activities of the committee were posted on the DOH website and comments were invited via an E-mail link.

Next steps:

Following presentation of the RDC rule revision recommendations to the SBOH, DOH will conduct economic analysis on all significant changes to the rule. The proposed rule changes must be analyzed to determine that the benefits of the changes outweigh the costs, and to determine that the changes do not place a disproportionate burden on small businesses.

Proposed Rule Changes:

The RDC identified, discussed, and proposed a wide variety of revisions and additions to the onsite sewage system rules. These proposals are grouped into two categories

- ❑ **Administrative & Policy Matters**
 - Product Registration
 - Product Development Permit
 - Operation, Monitoring, and Maintenance (O&M)
 - Minimum Land Area
- ❑ **Technical Matters**
 - Soils Classification (Soils Table)
 - Loading Rates
 - Treatment Levels
 - Application of Treatment Levels
 - Repair of Failures
 - Disinfection Equipment

For each of these topical areas this report will present a summary of current framework or status, a description of the key elements of the RDC proposal, and a statement of how the proposal differs from the current rule.

Administrative & Policy Matters

Product Registration

Current Status: Currently, local health officers (LHOs) may only permit alternative systems that have Recommended Standards and Guidance (RS&G) written by DOH, and proprietary products that are listed on the department's List of Approved Systems and Products. In order to be placed on the approved list, manufacturers must show that their product meets the requirements established in the guidance document (RS&G) for their particular type of system. It is this process—approval based on requirements that exist only in guidance, not rule—that needs updating to be consistent with the provisions of the Administrative Procedures Act.

RDC Proposal: The RDC proposes a product approval framework similar to the existing one, but with requirements for testing, testing protocols, performance threshold levels, application processes, and related requirements established in rule rather than in guidance. The new framework is described as a Registration program to differentiate it from the previous approval process. To implement these changes, the RDC proposes a new classification system designating four categories of sewage treatment and dispersal technologies and clearly describing in rule the approval and permitting criteria for each. Current categories of systems—conventional, alternative and proprietary—have been replaced with new classifications. Sewage technologies and proprietary products are addressed in the proposed rule according to four broad categories:

- ❑ Public domain treatment technologies (e.g. sand filters);
- ❑ Proprietary treatment technologies (e.g. aerobic treatment units and packed bed filters);
- ❑ Public domain distribution technologies (e.g. gravel or generic gravel substitutes);
- ❑ Proprietary distribution technologies (e.g. sub-surface drip system products or gravelless drainfield system products).

Manufacturers on the existing List of Approved Systems & Products may use previously submitted test results and product information to meet the requirements for product registration under the proposed rule. Registration is valid for up to one year. Substantial product modifications will require a new application for registration; otherwise a simple registration renewal will be available.

Effect of Changes: The requirements for Registration will exist in rule rather than guidance. Registration will occur annually with a means to easily renew products that are unchanged in design or materials. Descriptive terms will be based on component function rather than a delineation of “conventional” or “alternative.” The proposed changes will establish consistency in the review and approval of proprietary products and provide greater clarity of process steps.

Product Development Permit

Current Status: The current “experimental system” process, as a means to gain approval for a new onsite sewage device or technology, is extensive. Requirements are not identified in rule or guidance (each applicant proposes a testing regime to the department and the TRC for acceptance). A result of this framework is that similar products can be held to different testing and review requirements. The testing results are open to public review, often placing the developer in a compromising position of revealing product information to potential competitors. The current program exposes the DOH to conflict and is not conducive to an “even playing field” for product development.

RDC Proposal: The RDC proposes a Product Development Permit (PDP) that allows developers to test their products in “real world” settings and to keep their product testing protocol and test results proprietary. A local health officer may issue a PDP for any proprietary treatment product. A permit for an approved onsite sewage system must accompany the PDP and the approved system must be installed in its entirety before the PDP becomes valid, allowing for the installation of the product under development. The existence of the approved system during this product development helps ensure public health protection throughout the period of the permit. The PDP is valid for one year and may be renewed. A PDP may only be issued for proprietary treatment products and the testing regime and results obtained belong to the developer.

The PDP program is not a direct route to product approval. Upon completion of product development under a PDP the product is subjected to the testing requirements established in the proposed rules. Upon completion of product development, the product is removed from the site, leaving the approved onsite sewage system.

Effect of Changes: The Product Development Permit maintains the opportunity for treatment products to be developed in Washington state. The proposed changes will provide a means to promote the development of new products without exposing proprietary information to public review. Upon completion of product development the product would be tested according to the testing standards for all treatment systems.

Operation, Monitoring and Maintenance (O&M)

Current Status: One of the most controversial and important issues facing the RDC was how to ensure the long-term functioning of onsite sewage systems with proper operation, monitoring and maintenance. This is becoming more important as high-risk sites are developed (especially in Western Washington) utilizing systems with increased complexity (including aerobic treatment units, disinfection units, pumps, and pressure distribution systems). These systems require a greater frequency of maintenance and a higher degree of technical proficiency for service.

Currently the rule requires local health jurisdictions (LHJs) to provide Operation & Maintenance (O&M) information and educational materials to system owners, and develop and implement plans to monitor onsite sewage systems. Because of inadequate resources LHJs are often restricted in their capacity to conduct local O&M assessments, to recognize regional and site specific differences in O&M needs or to develop O&M programs in response to these needs.

RDC Proposal: The RDC recognized that O&M is a complex issue with many dimensions, and proposed a number of changes to address various aspects of the issue.

Revised Local Plans: The proposed rule includes a new section directing LHOs to develop a written plan to guide development, construction and overall management activities for all onsite sewage systems (OSS) within their jurisdiction. The plan directs LHOs to evaluate their jurisdictions for high-risk areas (examples include: shellfish protection districts, sole source aquifers, and designated wellhead protection areas), which may require additional requirements for siting, operation and maintenance. The established plan elements require LHOs to develop and maintain an inventory of known OSS in the jurisdiction, to define O&M requirements commensurate with risks posed by the systems and the sites, and to describe the capacity of the LHJ to ensure adequate O&M of all OSS within the jurisdiction.

The proposal eliminates the current Areas of Special Concern section—a potentially valuable, but underutilized tool—and highlights such areas as part of the required LHJ plan to manage onsite sewage systems. DOH is directed to develop a model plan to guide local jurisdictions in their development of these plans.

Design requirements to facilitate O&M:

The RDC approved the following changes in design requirements to facilitate system O&M.

- For all systems, access for maintenance and inspection at finished grade is required. For more complex systems, criteria are established for at-grade access for monitoring and maintenance.
- For systems using pumps, clearly accessible controls and warning devices are required.

Notification of OSS on property title:

The proposed rule requires that the LHJs ensure that a Notice-to-Title is filed identifying that an OSS is in use on the property and that the owner is responsible for O&M.

Annual inspections for all systems except gravity:

The RDC proposal requires the OSS owner to obtain a complete evaluation of the system components to determine functionality, maintenance needs and compliance with regulations, once every three years for conventional systems, and annually for all other systems unless specified by the LHJ. The current rule requires owners to inspect only the septic tank once every three years.

Effect of Changes:

New design requirements to facilitate routine, cost-effective monitoring of all onsite sewage systems have been included. Systems with greater complexity receive more frequent monitoring, and identified service needs are met. Local Health Officers are to develop comprehensive management plans for the onsite sewage system “infrastructure” to address the life-span monitoring and service needs of these systems in addition to the siting, application, design, installation and construction inspection. Owner awareness of responsibilities associated with system ownership is enhanced through “educational opportunities” such as the Notice-to-Title. The proposed changes will help ensure that onsite sewage systems receive the operational care, monitoring and maintenance they require to function properly.

What O&M issues remain?

As building sites are more difficult to develop because of soil and topographical limitations, the use of complex technology increases. Policy questions remain about whether the proposed rule adequately addresses the increasing need for O&M of these systems.

While the RDC agreed to strengthen the rule regarding O&M, some committee members articulated that the proposed rule did not go far enough, while others expressed concern that some of the proposed changes were unnecessary for conditions in their geographical area. Two minority reports (#1 and #2) submitted by a representative of the commercial shellfish industry have been included in Appendix C. The first asks the SBOH to strengthen the requirements for the LHJ’s plans, to identify all OSS in operation in the jurisdiction, and to establish completion dates for the plans. The second report asks the SBOH to require DOH to provide oversight to LHJs to ensure adequacy of plans.

Minimum Land Area

Current Status:

The current rule establishes a “minimum land area” required to place an onsite sewage system and protect ground and surface water (Table VII in the current rule, Table X in the DRAFT document). Minimum land area requirements are based on the treatment potential of soils, the onsite system design and the setback requirements. Onsite sewage systems discharge treated sewage to the subsurface soil. The quality of wastewater reaching ground or surface water is dependent on the level of treatment provided prior to discharge to the soil, and to the level of treatment achieved in the unsaturated zone of the receiving soil. Typical onsite systems discharge a variety of contaminants to the subsurface soil including microbial pathogens, nitrates, and small quantities of metals and volatile organic compounds. The required minimum land area provides for the physical space needed to site an onsite sewage system (including future replacement area set-aside) and land area needed to attenuate the potential impacts to groundwater quality.

The existing rule provides two methods for determining minimum land area for new lots.

- Method 1 – requires a minimum of 12,500 to 22,000 square feet for parcels served by public water and 1-2 acres for parcels served by individual water, depending on soil type
- Method 2 – Allows reductions to 12,500 square feet with report containing technical justification

Onsite sewage systems (along with other sources such as lawn fertilizers and agriculture) contribute nitrogen to ground water. Nitrogen is converted to nitrate in aerobic environments, such as the upper strata of soil. Nitrate is soluble and mobile in water and thus, whenever there is a recharge of groundwater through the soils overlying an aquifer, nitrate will be added to the water.

Nitrate is a concern for both public health and the environment. Increased nitrogen levels have been identified in various locations of the state. Nitrate in high levels in drinking water can cause methemoglobinemia (blue baby syndrome). It can also contribute to eutrophication of marine waters causing excessive algae blooms. These blooms deplete oxygen from the water as the algae die and decay causing fish kills and other environmental problems such as those recently observed in Hood Canal. Nitrate can be addressed by treatment before discharge to the drainfield soil, by attenuation (uptake) by grasses, shrubs, and trees, or by dilution within the receiving groundwater. Minimum land area requirements affect the amount of groundwater available for this dilution.

The TRC made a recommendation to increase minimum land area based on findings from numerous scientific studies (some conducted in the Pacific Northwest) showing high correlation between ground water contamination and high-density development. (See reference listed in Appendix B). Specifically, the studies indicated that density over two

households per acre could contribute to groundwater degradation. The current rules allow minimum land areas as small as 12, 500 square feet (3.5 households per acre).

The RDC discussed revisions to the minimum land area table, as follows, based on the TRC recommendations.

Table X
Minimum Land Area Requirement
Single Family Residence or Unit Volume of Sewage

Type of Water Supply	Soil Type					
	1A-1B	2A-2B	3	4	5	6
Public	0.5 acre	12,500 sq. ft. 0.5 acre	15,000 sq. ft. 0.5 acre	18,000 sq. ft. 0.5 acre	20,000 sq. ft. 0.5 acre	22,000 sq. ft. 0.5 acre
Individual on each lot	1.0 acre	1 acre	1 acre	1 acre	≥ 1 acres	≥ 1 acres

RDC Proposal: The proposal requires a minimum land area of ½ acre per residential source (household) served by public water sources. For parcels served by individual water supplies, the proposal does not change minimum land area for Soil Types 1 through 4. The minimum land area is reduced from 2 acres to 1 acre for Soil Types 5 and 6, providing adequate land area to attenuate nitrate while maintaining minimal physical space to accommodate the sewage system with initial and replacement drainfields. .

The RDC recommended retaining Method 2 as a means to establish minimum land area and directed DOH to develop guidance for conducting a Method 2 analysis. In areas where nitrogen is not a concern and criteria established for a Method 2 analysis are met, land areas as small as 12,500 square feet may still be used. Included in a Method 2 analysis will be an assessment of the site's sensitivity to nitrogen.

Effect of Changes: Minimum land area requirements are increased to one-half acre (or maximum of 2 units per acre) for households served by public water systems. Method 2 as an alternate means to establish minimum land area is retained providing the opportunity to increase density to about 3.5 units per acre on lots of 12,500 square feet. When Method 2 is applied, the nitrogen load from the onsite sewage systems must be identified and addressed by system design and land area. The proposed changes increase the capacity of each site to attenuate the nitrogen discharged to the soil environment by onsite sewage systems. The ½ acre minimum helps ensure adequate physical space to meet the needs of the proposed development and the installation of an onsite sewage system with dedicated area for a replacement drainfield.

Minority concerns: Two minority reports on minimum land submitted by representatives of the building industry and sewage system designers are included (see #3 and #4 in Appendix C). Both recommend maintaining the current rule language for minimum land area. They advocate that the proposed rule includes increased protection of ground and surface water through amended O&M standards, treatment levels and design standards and these should be implemented before additional restrictions are placed on minimum land area. They also question the technical justifications for additional land area restrictions.

Technical Matters

Technical Recommendations:

The TRC and the RDC recommended that the current regulatory framework could be improved by a greater recognition of the treatment potential of the wide variety of soil and site characteristics in Washington. The RDC proposed a revised framework that links levels of treatment to soil and site conditions. It is supported by research, the USEPA design manual and extensive peer review among industry and regulatory experts.

“Technical Recommendations ” include:

1. Soils Classification (Soils Table)
2. Loading Rates
3. Treatment Levels
4. Application of Treatment Levels
5. Repair of Failures
6. Disinfection Equipment

Soils Classification

Current Status: The rule currently defines eight “soil types”: Soil Types 1A & 1 B, 2A & 2 B, 3, 4, 5, & 6. These Soil Types categorize the range of soil suitable for onsite sewage systems by texture, from coarse-grained sands, to silts, and clay. Those soils that are unsuitable for treatment or disposal are also delineated.

RDC Proposal: The RDC proposal supports recommendations of the TRC. The proposed table has seven soil classifications, and includes differentiation by soil structure, soil descriptions, and clarification of what soil textures are unusable. One of the more important changes is that coarse, medium, and fine sands have moved down in the table. This recommendation from the TRC was based on long-term function of drainfields installed in these soils and is consistent with the USEPA Design Manual (2002).

Effect of Changes: The number of soil type categories is reduced by two. The proposed seven soil classifications presents a shift for medium, fine, and very fine sands to the next “lower” soil type. This results in a decreased loading rate for these soils impacting drainfield size. This is a concern in the Pacific Coast beach communities where existing lot sizes are limited. The significance of soil structure is reflected in the addition of structural elements to the fine-textured soils of Soil Type 5 & 6.

The proposed changes will result in larger drainfields installed in medium, fine, and very fine sand soils compared to current standards. This increase in drainfield size will provide for better treatment performance and system longevity.

Loading Rates

Current Status: Loading rates refer to gallons per day per square foot (gpd/sq.ft.) of septic tank effluent that a drainfield is expected to release into the surrounding soil. Loading rates vary by Soil Type, and are used by the designer to determine the size of the drainfield. As loading rates decrease, drainfield size increases for the anticipated sewage flow. Currently, the most coarse-textured soils are limited to a maximum loading rate of 1.2 gpd/sq.ft. and the most fine-textured soils are limited to a maximum loading rate of 0.2 gpd/sq.ft.

RDC Proposal: The TRC recommended to the RDC that the current loading rates be revised for consistency with the 2002 USEPA Design Manual, and to address experience that the loading rates are too high for some soils. The RDC proposal establishes a maximum loading rate of 1.0 gpd/sq.ft. for coarse sands, which is a decrease from the current maximum loading rate of 1.2 gpd/sq.ft. This recommendation was based on a literature review showing increased system longevity at lower loading rates.

Effect of Changes: Maximum loading rate decreased to 1.0 gpd/sq.ft for coarse sands. The proposed change will increase the size of drainfields and sand filters by about 17% for a three-bedroom home. This increase in size will provide for more soil or filter area per gallon of wastewater, thus improving the treatment performance and longevity of the system.

Minority Opinion: A minority report (#5) on loading rates is included in Appendix C. The proponent, a sewage system designer, asks the SBOH to keep the current application rates and questions the technical justifications used to:

- ❑ Reallocate medium, fine, and very fine sands to the next lower Soil Type in the classification scheme (thus reducing the loading rates for these sandy soils); and,
- ❑ Reduce the maximum loading rate for coarse sands from 1.2 to 1.0 gpd/sq. ft.

Treatment Levels

Current Status: The rule currently links high-risk sites to treatment products and systems tested to two threshold levels, Treatment Standards 1 and 2. The practical difference in these two standards is minimal. For sites posing a low risk with deep soils, septic tank effluent is the current treatment standard. For many sites posing a moderate risk, an intermediate level does not exist. This results in some sites being over-regulated, required to use a treatment level that does not recognize the treatment potential of the soil. Other sites may be under-regulated for lack of an appropriate treatment level in rule.

Treatment levels of the existing onsite sewage system rule:

- Treatment Standard 1 – 10 mg/L BOD₅¹ & TSS², 200 FC³/100 ml
- Treatment Standard 2 – 10 mg/L BOD₅ & TSS, 800 FC/100 ml
- Residential septic tank effluent. – A qualitative description in rule with some numerical parameters in guidance

Treatment Standard 1 & 2 threshold values are defined as 30-day average values (geometric mean for fecal coliform). These standards are best applied to product performance testing where test protocols are established and samples are drawn throughout the test period according to prescribed methods. They are less well applied to the field-based monitoring of treatment system performance.

RDC Proposal: The RDC DRAFT rule proposes a framework that clarifies the application and limitations of performance standards. The RDC proposal establishes Treatment Performance Levels for two reasons:

- As a means for categorizing the range of results from treatment product performance testing as part of the registration of proprietary products.
- As a means to match site characteristics (soil type and vertical separation⁴) to treatment components with a demonstrated treatment capacity.

The RDC proposes an additional treatment level for moderate risk sites (C). a level for treated effluent for drainfield size reductions (D)

¹ **BOD₅ or “Biochemical Oxygen Demand”** means the quantity of oxygen used in the biochemical oxidation of organic matter in five days at twenty (20) degrees centigrade under specified conditions and reported as milligrams per liter (mg/L).

² **TSS or “Total Suspended Solids”** means solids in wastewater that can be removed readily by standard filtering procedures in a laboratory and reported as milligrams per liter (mg/L).

³ **FC or “Fecal Coliform”** means a group of bacteria which produce gas and ferment lactose, some of which are found in the intestinal tract of warm-blooded animals, used as an indicator of ground water and surface water pollution and sewage treatment efficiency

⁴ **Vertical Separation** means the depth of unsaturated, original, undisturbed soil of Soil Types 1 – 6 between the bottom infiltrative surface of a soil dispersal component and the highest seasonal water table, a restrictive layer, or Soil Type 7. (As defined in the DRAFT rule).

(provisions for reducing drainfield size based upon effluent quality was retained in guidance) and a treatment level (N) for identifying nitrogen reduction performance of treatment systems to be used by LHJs in nitrogen sensitive environments. The proposed Treatment Levels table shows six levels: A, B, C, D, E and N and the values associated with each test parameter. The table (Table III in the DRAFT document) presents the treatment product performance levels for manufacturers when verifying their product's performance.

The RDC proposal clarifies the application of the proposed levels to the review of product performance and registration of proprietary products. The RDC discussed the merits of applying these 30-day average threshold values to field sample collection for monitoring on-going function of treatment systems, and determined that this was not appropriate. The RDC requested that the department address the matter of identifying appropriate field test threshold values with the TRC. This work is expected to result in a guidance document to assist LHJs and the private sector in the monitoring and field sampling of treatment systems.

Treatment System Performance Testing Levels					
	Parameters				
Level	CBOD ₅ ⁵	TSS	FOG ⁶	FC	TN ⁷
A	10 mg/L	10 mg/L	—	200/100 ml	—
B	15 mg/L	15 mg/L	—	1,000/100 ml	—
C	25 mg/L	30 mg/L	—	50,000/100 ml	—
D	25 mg/L	30 mg/L	—	—	—
E	200 mg/L	80 mg/L	20 mg/L	—	—
N	—	—	—	—	20 mg/L

Effect of Changes:

The testing parameter BOD₅ is changed to CBOD₅ for consistency with national standards, Treatment Standard 1 is renamed Level A, Treatment Standard 2 is slightly modified and becomes Level B, a new Treatment Level C is added between Level B and residential septic tank effluent, a new threshold for drainfield size reductions due to treated effluent is added as Treatment Level D, a Level E represents residential septic tank effluent and, a numerical value is established for Total Nitrogen reduction with Level N.

The proposed changes provide, with the refinement of existing performance levels, and the addition of a new moderate level, a wider and better-distributed range of treatment levels to match with the range

⁵ **CBOD₅ or “Carbonaceous Biochemical Oxygen Demand”** means the quantity of oxygen used in the biochemical oxidation of organic matter exerted by biodegradable organic matter in five days at twenty (20) degrees centigrade under specified conditions and reported as milligrams per liter (mg/L) During the test procedure a nitrification inhibiting chemical is added to the sample to stop the biochemical oxygen demand exerted by nitrifying bacteria.

⁶ **FOG or “Fats, Oils & Greases”** means a component of sewage typically originating from food stuffs (animal fats or vegetable oils) or consisting of compounds of alcohol or glycerol with fatty acids (soaps and lotions).

⁷ **TN or Total Nitrogen** means the combination of ammonia, organic nitrogen, and nitrate and nitrite nitrogen.

of site characteristics that exist throughout the state. This helps ensure that appropriate levels of treatment are provided to variable site risks.

Application of Treatment Levels

Current Status: Applying Treatment Standards to individual sites is based on matching an appropriate sewage treatment component to a sub-surface drainfield or other dispersal component, accounting for soil and site limitations.

For sites without limiting conditions and with soils of Types 2 through 6, the minimum treatment component required is a septic tank before a typical drainfield. As limiting conditions occur, such as vertical separation less than two feet, other types of treatment components are required preceding final treatment and dispersal in the drainfield. At the end of this spectrum with the most limited soil and site conditions, systems demonstrated to perform at the level of Treatment Standard 1 & 2 are applied.

In addition to the application of treatment products and systems that provide increasing levels of treatment, the method of effluent distribution changes from gravity to pressure as vertical separation decreases.

Table IV in the current rule presents the relationship between soil types, vertical separation (four classifications), treatment levels, and means of distribution.

RDC Proposal: The RDC proposes a revised design table (Table VI in the DRAFT document, updating the current Table IV) that establishes the match between treatment components, site conditions, soil types, and method of wastewater distribution within the soil dispersal component. The table incorporates further delineation of vertical separation ranges and identifies the means of distribution by soil type and depth.

The RDC proposal includes two additional vertical separation ranges:

- Split the $\geq 12''$ to $< 24''$ vertical separation into two ranges:
 - $\geq 12''$ to $< 18''$
 - $\geq 18''$ to $< 24''$, and
- Split the current $\geq 36''$ vertical separation into two ranges:
 - $\geq 36''$ to $< 60''$,
 - $\geq 60''$.

The requirement for a minimum of 12 inches of vertical separation, regardless of Soil Type, remains.

With the additional delineation of vertical separation ranges, the RDC proposed framework of soil type, treatment level, and means of distribution acknowledges the treatment capacity of the various types of soils and vertical separations.

TABLE VI				
Treatment Component Performance Levels and Method of Distribution				
Vertical Separation	Soil Type			
	1	2	3 & 4	5 & 6
12" < 18"	A — Pressure	B — Pressure	B — Pressure	B — Pressure
≥18" < 24"	B — Pressure	B — Pressure	B — Pressure	B — Pressure
≥24" < 36"	B — Pressure	C — Pressure	E — Pressure	E — Pressure
≥36" < 60"	B — Pressure	E — Pressure	E — Gravity	E — Gravity
≥ 60"	C — Pressure	E — Gravity	E — Gravity	E — Gravity

Effect of Changes: Additional ranges of vertical separation, new Treatment Levels applied across the range of soil types and vertical separation, method of distribution clearly delineated.

The proposed changes provide, with the further delineation of vertical separation ranges, an increased accuracy in the match of treatment levels with the range of site characteristics that exist throughout the state. This helps ensure that appropriate levels of treatment are provided to variable site risks.

Repair of System Failures

Current Status: Currently, the rule has requirements for failing onsite systems when the site cannot meet new system design standards for horizontal and vertical separations from surface and ground water. The table that establishes design requirements for drainfields under repair does not differentiate design responses by soil type. Currently, all soil types are considered equal in treatment capacity for each of the horizontal and vertical separations.

RDC Proposal: The RDC proposal for repair of failing systems that cannot meet new construction standards establishes performance requirements to be met based on available horizontal and vertical separation. The proposal (Table IX in DRAFT rule) expands the current table to include design directions according to soil types. Requirements are added for horizontal setbacks greater than 100 feet, and time dosing is required with pressure distribution.

Effect of Changes: Expanded table for drainfield repair design including pressure distribution with time dosing required in all cases. The proposed changes provide a more accurate match of treatment levels to the limited site characteristics presented on repair sites. These changes, with the requirement for pressure distribution with time dosing ensure a greater level of treatment performance and public health protection.

Disinfection Devices

Current Status: Under current rule and technical guidance disinfection units are used to obtain effluent treatment levels for fecal coliform prior to discharge to a drainfield. These units are uniformly considered by many in industry and health jurisdictions to be unreliable and ineffective.

RDC Proposal: The RDC proposes that disinfection products be performance tested according to nationally accepted protocol—either as an individual unit or as part of a treatment component sequence.

Disinfection products shall not be used in the following situations:

- Type 1 soils,
- Repairs with less than 18 inches vertical separation, and
- To meet the fecal coliform values for Treatment Level C.

Effect of Changes: Use of disinfection equipment is restricted. The proposed changes help ensure that disinfection equipment, when used, is reliable and tested for performance. For sites with high-risk conditions, treatment technologies with greater performance and reliability than disinfection equipment, helps ensure public health protection.

Remaining Technical Issues & Minority Concerns:

The RDC identified three outstanding questions and requested that DOH and the TRC review these topics:

Residential Septic Tank Effluent (STE)

Objective: Describe the line between “typical residential STE” and “high-strength STE” by identifying single-sample values for residential septic tank effluent using the parameters of CBOD₅⁸, TSS⁹, FOG¹⁰, and- pH¹¹

Outcome: Develop recommendations to the SBOH for amending the DRAFT onsite systems rule to include these values in the definition for *residential sewage*.

⁸ **CBOD₅ or “Carbonaceous Biochemical Oxygen Demand”** means the quantity of oxygen used in the biochemical oxidation of organic matter exerted by biodegradable organic matter in five days at twenty (20) degrees centigrade under specified conditions and reported as milligrams per liter (mg/L). During the test procedure a nitrification inhibiting chemical is added to the sample to stop the biochemical oxygen demand exerted by nitrifying bacteria.

⁹ **TSS or “Total Suspended Solids”** means solids in wastewater that can be removed readily by standard filtering procedures in a laboratory and reported as milligrams per liter (mg/L).

¹⁰ **FOG or “Fats, Oils & Greases”** means a component of sewage typically originating from food stuffs (animal fats or vegetable oils) or consisting of compounds of alcohol or glycerol with fatty acids (soaps and lotions).

¹¹ **pH** means a measure of the degree of acidity or alkalinity of a solution. pH values from 0 to 7 indicate acidity and from values from 7 to 14 indicate alkalinity. The pH value of 7 is regarded as neutral.

Field Assessment Threshold Values

Objective: Identify values for field evaluation of treatment products when sampling is limited, using the parameters CBOD₅, TSS, Fecal coliform.

Outcome: Develop a guidance document to assist LHJs and the private sector with monitoring treatment system performance in the field.

Use of Beds in Soil Types 1-6

Objective: Review information in the scientific literature to establish standards for the use of beds for all soil types, with limitations, if any, specific to each category of soil.

Outcome: Develop recommendations to the SBOH for amending the DRAFT onsite systems rule to include updated application of beds, for all soil types, as appropriate.

The department began work on these three topics in December 2003, when they introduced these topics to the TRC. Two of these topics received presentation and discussion at the February 2004 TRC meeting. The third topic will be presented and discussed at the next scheduled TRC meeting.

Minority Reports

Attached are five additional minority reports (#8 - #12). These relate to definitions and clarification of design requirements. The recommendations presented in these reports will be considered by the DOH along with other comments received during the public review and comment portion of the rule development process.

Appendix A

Onsite Sewage System Rule Revision Chapter 246-272A WAC

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Purpose and Administration

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246-272 A-00990	Fees
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246-272~~A-00101~~ 0001 Purpose, Objectives, and Authority.

- (1) The purpose of this chapter is to protect the public health by minimizing:
 - (a) The potential for public exposure to sewage from ~~on-site~~onsite sewage systems; and
 - (b) Adverse effects to public health that discharges from ~~on-site~~onsite sewage systems may have on ground and surface waters.
- (2) This chapter regulates the location, design, installation, operation, maintenance, and monitoring of ~~on-site~~onsite sewage systems to:
 - (a) Achieve effective long-term sewage treatment and effluent ~~disposal~~ dispersal; and
 - (b) Limit the discharge of contaminants to waters of the state.
- (3) This chapter is adopted by the State Board of Health ~~in accordance with the authority granted in~~ under the authority in RCW 43.20.050 to establish minimum requirements for the department of health, and local boards of health whether or not they choose to adopt local regulations

246-272~~A-00501~~ 0005 Administration.

The local health officers and the department shall administer this chapter under the authority and requirements of chapters 70.05, 70.08, 70.118, 70.46, and 43.70 RCW. Under chapter 70.05.060(7) RCW, fees may be charged for this administration.

246-272~~A-01001~~ 0010 Definitions.

"**Additive**" means a commercial product added to an ~~on-site~~onsite sewage system intended to affect performance or aesthetics of an ~~on-site~~onsite sewage system.

~~"Alternative system" means an on-site sewage system other than a conventional gravity system or conventional pressure distribution system. Properly operated and maintained alternative systems provide equivalent or enhanced treatment performance as compared to conventional gravity systems.~~

"**Approved**" means a written statement of acceptability, ~~in terms of~~ that a proposed action appears to meet the requirements in this chapter, issued by the local health officer or the department.

~~"Approved list" means "List of Approved Systems and Products", developed annually and maintained by the department and containing the following:~~

- ~~— (a) List of proprietary devices approved by the department;~~
- ~~— (b) List of specific systems meeting Treatment Standard 1 and Treatment Standard 2;~~

~~—(c) List of experimental systems approved by the department;~~

~~—(d) List of septic tanks, pump chambers, and holding tanks approved by the department.~~

~~"Area of Special Concern" means an area of definite boundaries delineated through public process, where a local health officer, or the department in consultation with the health officer, determines additional requirements for on-site sewage systems may be necessary to reduce potential failures, or minimize negative impact of on-site systems upon public health.~~

"Bed" means a soil dispersal component greater than 3 feet in width.

"CBOD₅" means carbonaceous biochemical oxygen demand, typically measured in mg/L.

"Certified Inspector" means an employee of a local health jurisdiction who holds a certificate of competency from the Washington state department of licensing under chapter 18.210 RCW or as allowed under RCW 70.118.120.

"Cesspool" means a pit receiving untreated sewage and allowing the liquid to seep into the surrounding soil or rock.

"Conforming system" means any ~~on-site~~onsite sewage system, ~~except an experimental system,~~ meeting any of the following criteria:

- (a) Systems in full compliance with new construction requirements under this chapter; or
- (b) Systems approved, installed and operating in accordance with requirements of previous editions of this chapter; or
- (c) Systems or repairs permitted through departmental concurrence by the waiver ~~process~~ which process that assure public health protection by higher treatment performance or other methods.

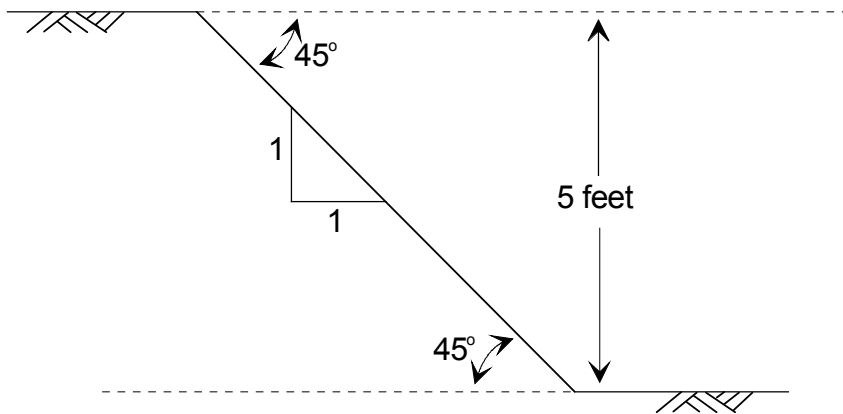
"Construction Record" means an accurate graphic and written record of the location and features of the OSS that are needed to properly monitor, operate, and maintain that system.

"Conventional gravity system" means an ~~on-site~~onsite sewage system consisting of a septic tank and a subsurface soil absorption system (SSAS) or gravelless SSAS with gravity distribution of the septic tank effluent

"Conventional pressure distribution system" means an ~~on-site~~onsite sewage system consisting of a septic tank and a subsurface soil absorption system (SSAS) or gravelless SSAS with pressure distribution of the septic tank effluent. ~~Design, operation and maintenance, and performance monitoring are described by "Guidelines for Pressure Distribution Systems" by the Washington state department of health.~~

"Covenant" means a recorded agreement stating certain activities and/or practices are required or prohibited.

"Cuts and/or banks" means any naturally occurring or artificially formed slope greater than one hundred percent (forty-five degrees) and extending vertically at least five feet from the toe of the slope to the top of the slope as follows:



"Department" means the Washington state department of health.

"Designer" means a person who matches site and soil characteristics with appropriate ~~on-site~~ onsite sewage technology. Throughout this chapter this term applies to both onsite sewage treatment system designers licensed under chapter 18.210 RCW and professional engineers licensed under chapter 18.43 RCW.

"Design Flow" means the ~~estimated daily flow rate that the designer uses used to size design an onsite sewage system. It contains a factor of safety but is not meant to be used as the daily. It is always greater than the sustained operating flow rate-operating system flow rate.~~

"Development" means the creation of a residence, structure, facility, mobile home park, subdivision, planned unit development, site, area, or ~~similar any~~ activity resulting in the production of sewage.

"Distribution technology" means ~~any arrangement of equipment and/or materials that distributes wastewater~~ Sewage within an onsite sewage system.

"Disposal component" ~~means a subsurface absorption system (SSAS) or other soil absorption system receiving septic tank or other pretreatment device effluent and transmitting it into original, undisturbed soil. See Soil Dispersal Component~~

"Drainfield" means an area that contains a soil dispersal component of an onsite sewage system.

"Effluent" means liquid discharged from a septic tank or other ~~on-site~~ onsite sewage system component.

"Engineer" ~~means a person who is licensed and in good standing under chapter 18.43 RCW.~~

"Expanding clay" means a clay soil with the mineralogy of clay particles, such as those found in the Montmorillonite/Smectite Group, which causes the clay particles to expand when they absorb water, closing the soil pores, and contract when they dry out.

"Expansion" means a change in a residence, facility, site, or use that:

- (a) Causes ~~the proposed sewage quantity or quality of an on-site sewage system to exceed its -the design capacity of the onsite system- existing treatment or disposal capability~~, for example, when a residence is increased from two to three bedrooms or a change in use from an office to a restaurant; or
- (b) Reduces the treatment or ~~disposal dispersal~~ -capability of the existing ~~on-site~~ onsite sewage system or the reserve area, for example, when a building is placed over a reserve area.

"Experimental system" means any alternative system:

- (a) Without design guidelines developed by the department; or
- (b) A proprietary device or method which has not yet been evaluated and approved by the department.

"Extremely gravelly" means soil with 60% or more but less than 90% rock fragments by volume.

"FOG" (fats, oils and greases) a component of sewage typically originating from food stuffs (animal fats or vegetable oils) or consisting of compounds of alcohol or glycerol with fatty acids (soaps and lotions). Typically measured in mg/L.

"Failure" means a condition of an ~~on-site~~onsite sewage system that threatens the public health by inadequately treating sewage or by creating a potential for direct or indirect contact between sewage and the public. Examples of failure include:

- (a) Sewage on the surface of the ground;
- (b) Sewage backing up into a structure caused by slow soil absorption of septic tank effluent;
- (c) Sewage leaking from a septic tank, pump chamber, holding tank, or collection system;
- (d) Cesspools or seepage pits where evidence of ground water or surface water quality degradation exists; or
- (e) Inadequately treated effluent contaminating ground water or surface water.
- (f) Noncompliance with standards stipulated on the permit

"Fecal Coliform" means bacteria common to the digestive systems of warm-blooded animals that are cultured in standard tests. Typically used -to indicate potential contamination from sewage or to describe a level of needed disinfection. Generally measured as colonies/100ml.

"Gravelless SSAS" means a soil dispersal component of trenches three feet or less in width, or beds between three and ten feet in width, containing an approved gravelless drainfield system installed in original, undisturbed, unsaturated soil providing at least minimal vertical separation as established in this chapter with either gravity or pressure distribution of treatment component effluent.

"Gravelly" means soils with 15% or more but less than 35% rock fragments by volume.

"Ground water" means a subsurface water occupying the zone of saturated soil, permanently, seasonally, or as the result of the tides. Indications of ground water may include:

- (a) Water seeping into or standing in an open excavation from the soil surrounding the excavation.
- (b) Spots or blotches of different color or shades of color interspersed with a dominant color in soil, caused by reduction and oxidation of iron. These color patterns are redoximorphic features, commonly referred to as mottling. ~~Mottling is a historic indication for Redoximorphic features often indicate~~ the intermittent presence of groundwater. ~~caused by intermittent periods of saturation and drying, and~~ This may be indicative of poor aeration and impeded drainage. Also see "Water table".

"Holding tank sewage system" means an ~~on-site~~onsite sewage system which incorporates a holding tank, the services of a sewage pumper/hauler, and the off-site treatment and disposal for the sewage generated.

“Hydraulic loading rate” means the amount of water applied to a given treatment step, usually expressed as gallons per day per square foot (gal/sq.ft./day).

“Industrial wastewater” means the water or liquid carried waste from an industrial process. These wastes may result from any process or activity of industry, manufacture, trade or business, from the development of any natural resource, or from animal operations such as feedlots, poultry houses, or dairies. The term includes contaminated storm water and leachate from solid waste facilities.

“Infiltrative Surface” means that portion of the treatment or soil dispersal component at the interface between the installed material and the undisturbed native soil intended for infiltration of effluent.

“Installer” means a qualified person approved by a local health officer to install or repair ~~on-site~~onsite sewage systems or components.

“Large ~~On-site~~Onsite Sewage System (LOSS)” means any ~~on-site~~onsite sewage system with design flows, at any common point, greater than 3,500 gallons per day.

“Local health officer” means the health officer of the city, county, or city-county health department or district within the state of Washington, or a representative authorized by and under the direct supervision of the local health officer, as defined in chapter 70.05 RCW.

“Maintenance” means taking the actions necessary to keep the onsite sewage system components in a good state of repair properly functioning as designed.

“May” means ~~discretionary, permissive, or allowed.~~

“Massive structure” means the condition of a soil layer in which the layer appears as a coherent or solid mass not separated into peds of any kind.

“Mineral soil” means a soil that is composed predominantly of mineral material containing no greater than 10% organic content when placed over a soil dispersal component, but may contain a small organic surface layer for establishing a suitable vegetative landscape to reduce soil erosion.

“Moderate structure” means well-formed distinct peds evident in undisturbed soil. When disturbed, soil material parts into a mixture of whole units, broken units, and material that is not in units.

“Monitoring” means a regular periodic or continuous check of an onsite sewage system, which is performed by observations and measurements, to determine if the system is functioning as intended and if system maintenance is needed. Monitoring also includes maintaining accurate records that document monitoring activities.

“~~On-site sewage system (OSS)~~” means ~~an integrated arrangement of components for a residence, building, industrial establishment or other places not connected to a public sewer system which:~~

- ~~—(a) Convey, store, treat, and/or provide subsurface soil treatment and disposal on the property where it originates, upon adjacent or nearby property; and~~
- ~~—(b) Includes piping, treatment devices, other accessories, and soil underlying the disposal component of the initial and reserve areas.~~

“Onsite sewage system” (OSS) means a sewage treatment system, located on or nearby the property it serves, consisting of a treatment component or treatment sequencetrain and a soil dispersal component. An onsite sewage

system may also refer to a holding tank sewage system- or other system that does not have a soil dispersal component.

"Ordinary high-water mark" means the mark on lakes, streams, and tidal waters, found by examining the beds and banks and ascertaining where the presence and action of waters are so common and usual, and so long continued in all ordinary years, as to mark upon the soil a character distinct from that of the abutting upland with respect to vegetation, as that condition exists on the effective date of this chapter, or as it may naturally change thereafter. The following definitions apply where the ordinary high water mark cannot be found:

- (a) The ordinary high-water mark adjoining marine water is the elevation at mean higher high tide; and
- (b) The ordinary high-water mark adjoining freshwater is the line of mean high water.

"Person" means any individual, corporation, company, association, society, firm, partnership, joint stock company, or any governmental agency, or the authorized agents of any such entities.

"Planned unit development" means a development characterized by a unified site design, clustered residential units and/or commercial units, and areas of common open space.

"Platy structure" means soil that contains flat peds that lie horizontally and often overlap. This type of structure will impede the vertical movement of water.

"Pressure distribution" means a system of small diameter pipes equally distributing effluent throughout a trench or bed, as described in the "Guidelines for Pressure Distribution Systems" by the department. Also see "conventional pressure distribution."

"Professional Engineer" means a person who is currently licensed as an engineer under the provisions of chapter 18.43RCW.

"Proprietary technology device or method" means wastewatersewage treatment and distribution technologies, methods, and materials that are held under subject to a patent or trademark.

"Public domain technology" means wastewatersewage treatment and distribution technologies, methods, and materials that are not held under subject to a patent or trademark.

"Public sewer system" means a sewerage system:

- (a) Owned or operated by a city, town, municipal corporation, county, or other approved ownership consisting of a collection system and necessary trunks, pumping facilities and a means of final treatment and disposal; and
- (b) Approved by or under permit from the department of ecology, the department of health and/or a local health officer.

"Pumper" Means a person approved by the local health officer to remove and transport wastewatersewage or septage from on-siteonsite sewage systems.

"Repair" means restoration, excluding normal maintenance, by relocation, replacement or reconstruction of a failed on-siteonsite sewage system.

"Reserve area" means an area of land approved for the installation of a conforming system and dedicated for replacement of the OSS upon its failure.

"Residential sewage" means the liquid waste transported from a structure to an OSS sewage having the constituency and strength typical of wastewater from domestic households measured at the septic tank outlet. Single sample values are expected to be less than CBOD of, TSS of ... and FOG of ... and pH of

"Restrictive layer" means a stratum impeding the vertical movement of water, air, and growth of plant roots, such as hardpan, claypan, fragipan, caliche, some compacted soils, bedrock and unstructured clay soils.

"SSAS" see subsurface soil absorption system.

"Seepage pit" means an excavation more than three feet deep where the sidewall of the excavation is designed to dispose of septic tank effluent. Seepage pits may also be called "dry wells".

"Septage" means the mixture of solid wastes, scum, sludge, and liquids pumped from within septic tanks, pump chambers, holding tanks, and other OSS components.

"Septic tank" means a watertight ~~pre~~treatment receptacle receiving the discharge of sewage from a building sewer or sewers, designed and constructed to permit separation of settleable and floating solids from the liquid, detention and anaerobic digestion of the organic matter, prior to discharge of the liquid.

"Sewage" means any urine, feces, and the water carrying human wastes, including kitchen, bath, and laundry wastes from residences, buildings, industrial establishments or other places. For the purposes of these regulations, "sewage" is generally synonymous with domestic wastewater. Also see "residential sewage."

"Sewage quality" means contents in sewage that include:

(a) CBOD₅, TSS, and FOG;

(b) Other parameters that can adversely affect treatment. Examples include pH, temperature, and DO;

© Other constituents that create concerns due to a specific site sensitivity. Examples include fecal coliform and nitrogen.

~~"Shall" means mandatory.~~

"Soil Dispersal Component" means a technology that releases effluent from a treatment component to the soil infiltrative surface for dispersal, final treatment and recycling:

(1) For separate treatment and soil dispersal components this includes:

(a) A SSAS;

(b) A Gravelless SSAS; or,

(cb) An at-grade, or above-grade soil dispersal system installed on no less than 12 inches of original, undisturbed, unsaturated soil.

(2) For combined treatment and soil dispersal components this includes:

(a) The effluent-to-soil dispersal element of an approved treatment component installed at-grade or above-grade on no less than 12 inches of original, undisturbed, unsaturated soil; or

(b) The effluent-to-soil dispersal element of an approved treatment component without an underdrain, allowing dispersal directly from the bottom of the component media to the original, undisturbed, unsaturated soil surface providing no less than 12 inches of vertical separation.

"Soil log" means a detailed description of soil characteristics providing information on the soil's capacity to act as an acceptable treatment and ~~disposal~~dispersal medium for sewage.

"Soil type" means a numerical classification of fine earth particles and coarse fragments as described in 246-272 ~~A-11001(2)(e)-0220(2)(e).~~

"Subdivision" means a division of land or creation of lots or parcels, described under chapter 58.17 RCW, now or as hereafter amended, including both long and short subdivisions, planned unit developments, and mobile home parks.

"SSAS" or "Subsurface soil absorption system" means ~~a system~~ a soil dispersal component of trenches three feet or less in width, or beds between three and ten feet in width, containing distribution pipe within a layer of clean gravel designed and installed in original, undisturbed, unsaturated soil providing at least minimal vertical separation as established in this chapter, for the purpose of receiving effluent and transmitting it into the soil with either gravity or pressure distribution of the treatment component effluent.

"Standard methods" means the 20th Edition of Standard Methods for the Examination of Water and Wastewater, prepared and published jointly by the American Public Health Association, the American Water Works Association and the Water Environment Federation.

"Strong structure" means peds are distinct in undisturbed soil. They separate cleanly when soil is disturbed, and the soil material separates mainly into whole units when removed.

"Surface water" means any body of water, whether fresh or marine, flowing or contained in natural or artificial unlined depressions for significant periods of the year, including natural and artificial lakes, ponds, springs, rivers, streams, swamps, marshes, and tidal waters.

"TSS" or total suspended solids means a measure of all suspended solids in a liquid, typically expressed in mg/L.

"~~Table VI~~Table IX Repair" means a repair or ~~replacement~~ of an existing ~~on-site~~ onsite sewage system which, because of site limitations, must utilize treatment standards shown in ~~Table VI~~ Table IX in lieu of compliance with new construction requirements for vertical separation and/or horizontal set back from surface waters or drinking water wells or springs.

"Timed Dosing" means delivery of predetermined volumes of sewage uniformly released after prescribed resting intervals.

"Treatment Component" means any approved technology that treats wastewatersewage in preparation for further treatment and/or dispersal into the soil environment by the soil dispersal component.

"Treatment Level" means one of 6 levels (A, B, C, D, E, & N) used in these rules to:

1. Identify treatment component performance demonstrated through specified the requirements in 246-272A-0110 & 0120; and
2. Match site conditions of vertical separation and soil type with Treatment Components.

Treatment Levels used in these rules are not intended to be applied to individual sites as compliance standards. Their intended use is for establishing treatment product performance in a product testing setting under established protocols by qualified testing entities.

"Treatment sequence~~Train~~" means any series sequence of treatment components that discharges treated wastewatersewage to the soil dispersal component.

"Treatment standard 1" means a thirty-day average of less than 10 milligrams per liter of biochemical oxygen demand (5 day BOD₅), 10 milligrams per liter of total suspended solids (TSS), and a thirty-day geometric mean of less than 200 fecal coliform per 100 milliliters.

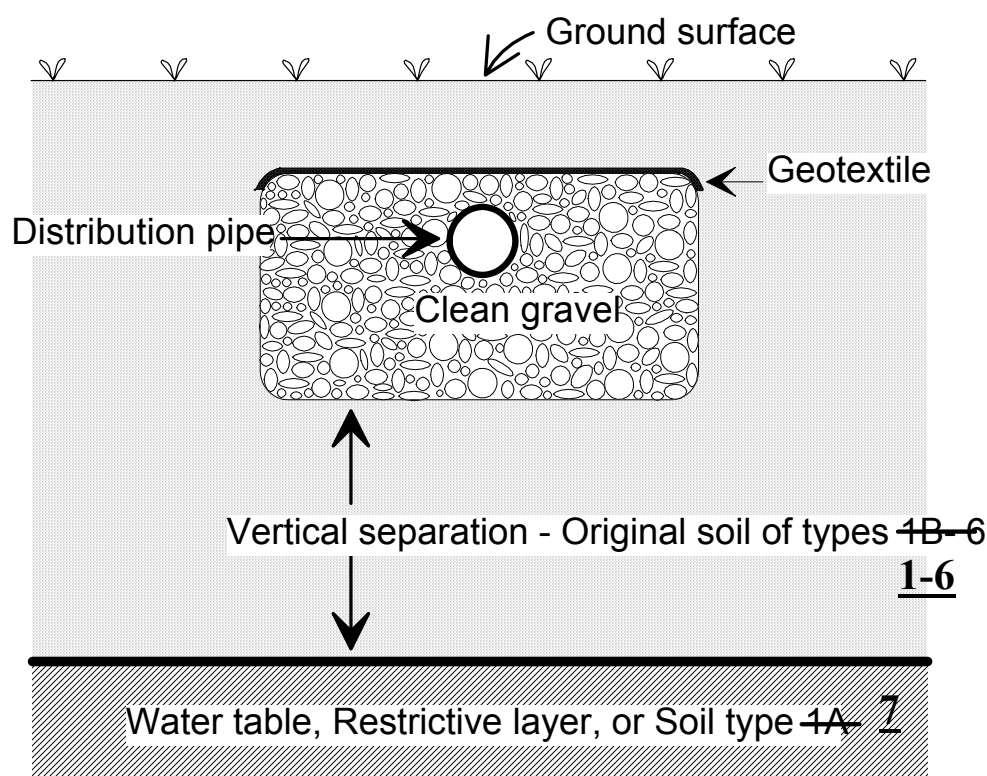
"Treatment standard 2" means a thirty-day average of less than 10 milligrams per liter of biochemical oxygen demand (5 day BOD₅), 10 milligrams per liter of total suspended solids (TSS), and a thirty-day geometric mean of less than 800 fecal coliform per 100 milliliters

"Trench" means a soil dispersal component consisting of an excavation with a width of three feet or less.

"Unit volume of sewage" means:

- (a) A single family residence;
- (b) A mobile home site in a mobile home park; or
- (c) 450 gallons of sewage per day where the proposed development is not single family residences or a mobile home park.

"Vertical separation" means the depth of unsaturated, original, undisturbed soil of Soil Types ~~1B-6~~ between the bottom-of- infiltrative surface of a soil dispersal ~~disposal~~ component and the highest seasonal water table, a restrictive layer, ~~or Soil Type 1A, or Soil Type 7~~ as illustrated below by the profile drawing of a subsurface soil absorption system:



"Very gravelly" means soil containing 35% or more and less than 60% rock fragments, by volume.

"Water table" means the upper surface of the ground water, whether permanent or seasonal. Also see "ground water."

"Wave barrier" means a bulkhead of adequate height and construction protecting the immediate area of on-site ~~onsite~~ sewage system components from wave action.

246-272 ~~A-02001~~ 0015 Local Management and Regulation.

- (1) The local health officer shall develop a written plan that will provide guidance to the local health jurisdiction regarding development and management activities for all OSS within the jurisdiction. The program shall include:

- a. A statement of the goals, objectives and desired outcomes; and
- b. A set of actions along with a proposed implementation timetable that will:
 - i. Progressively develop and maintain an inventory of all known OSS in operation within the jurisdiction;
 - ii. Evaluate ~~and identify~~ those areas and systems ~~where OSS pose an increased public health risk~~ that may require additional requirements for siting and operation and maintenance. The following areas shall be given priority in this activity:
 - (A) Shellfish protection districts or shellfish growing areas;
 - (B) Sole Source Aquifers designated by the U.S. Environmental Protection Agency;
 - (C) Areas in which aquifers used for potable water as designated under Washington Growth Management Act, chapter 36.70A.170 RCW are critically impacted by recharge;
 - (D) Designated wellhead protection areas for Group A public water systems.
 - (E) Up-gradient areas directly influencing water recreation facilities designated for swimming in natural waters with artificial boundaries within the waters as described by the Water Recreation Facilities Act, chapter 70.90 RCW;
 - (F) Areas designated by the department of ecology as special protection areas under chapter 173-200-090 WAC, Water Quality Standards for Ground Waters of the State of Washington;
 - (G) Wetland areas under production of crops for human consumption;
 - (H) Frequently flooded areas including areas delineated by the Federal Emergency Management Agency;.
 - (I) Other areas designated by the local health officer.
 - (iii) Define operation, maintenance and monitoring requirements that are commensurate with risks posed by OSS ~~within~~ the geographic areas evaluated in subsection (ii) of this section and the complexity of the onsite systems; and
 - (iv) Describe the capacity of the local jurisdiction to assure adequate operation, ~~monitoring~~ and maintenance of all known onsite sewage systems including the ability to:
 - 1. Facilitate education and provide operation and maintenance information for all types of systems in use within the jurisdiction; and
 - 2. Maintain records of all operation and maintenance activities as identified.
 - 3. Enforce OSS owner permit application, operation, monitoring and maintenance and failure repair requirements defined in WAC 246-272A-0200(1), 246-272A-0270, 246-272A-0275, and 246-272A-0280 (1) and (2).
- (2) After being approved by the local board of health through a public hearing, the local health officer shall supply a copy of the program to the department.
- (3) In order to implement the program described in subsection (1), the local health officer may require the owner of the OSS to:
 - (a) Comply with additional requirements for the location, design, or performance specified on the installation permit;
 - (b) Obtain ~~and renew a service contract~~ necessary maintenance and monitoring of the OSS;
 - (c) Obtain and comply with the conditions of a operational permit;

- (d) Provide dedicated easements for inspections, maintenance, and potential future expansion of the OSS.
- (e) Place a notice to title identifying that an OSS is in use on the property that requires O&M;
- (f) Have an inspection of the OSS at the time of property transfer including the development of a “construction record” if necessary;
- (g) Take all actions authorized by law to address repairs of identified failures.
- (4) The department shall develop guidance on local management programs to assist local health jurisdictions in plan development.
- (5) Local boards of health may adopt and enforce local rules and regulations governing on-site sewage systems when the local regulations are:
 - (a) Consistent with, and as stringent as, this chapter; and
 - ~~(b)~~ Approved by the department prior to the effective date of local regulations.
- (6) A local board of health may apply for departmental approval of local regulations at any time by initiating the following procedure:
 - ~~(a)~~ The local board shall submit the proposed local regulations to the department.
 - ~~(b)~~ Within 90 days of receipt, the department shall:
 - (i) Approve the regulation; or
 - (ii) Signify automatic tacit agreement with the local regulations and permitting local implementation by failing to act; or
 - (iii) Deny approval of the regulations. If the department determines local regulations are not consistent with this chapter, the department shall provide specific reasons for denial.
- ~~(3)~~ (7) Upon receipt of departmental approval or after 90 days without notification, whichever comes first, the local board may implement adopted regulations. The local board shall provide a copy of the adopted local regulations to the department.
- ~~(4)~~ (8) If the department denies approval of local regulations, the local board of health may:
 - ~~(a)~~ (a) Resubmit revised regulations for departmental consideration; or
 - (b) Submit a written request for a review of the departmental denial within 120 days from the date the local board of health receives the written reasons for the denial.
- ~~(5)~~ (9) Upon receipt of written request for review of the departmental denial, the department shall:
 - ~~(a)~~ (a) Acknowledge the receipt of the request in writing; and
 - ~~(b)~~ (b) Form a mutually acceptable advisory panel consisting of:
 - ~~(i)~~ (i) One departmental employee;
 - ~~(ii)~~ (ii) One employee from a local health jurisdiction other than that which requested the review; and
 - ~~(iii)~~ (iii) One member of the technical review advisory committee, described in WAC 246-272-23501.
- ~~(6)~~ (10) If good faith efforts to reach agreement are unsuccessful, the local board of health may appeal the denial to the Washington State Board of Health for resolution.

~~(7)~~(11) Nothing in this chapter shall prohibit the adoption and enforcement of more stringent regulations by local health departments where such regulations are needed to protect the public health.

246-272A-030010020 Applicability.

- (1) The local health officer and the department:
 - (a) Shall apply this chapter to OSS treating ~~wastewater~~ sewage and dispersing ~~disposing~~ of effluent from residential sewage sources;
 - (b) May apply this chapter to OSS for non-residential sources ~~of sewage other than residential sewage, excluding industrial wastewater,~~ if pretreatment, siting, design, installation, and operation and maintenance measures provide treatment and effluent disposal dispersal equal to that required of residential sewage sources.
 - (c) Shall not apply this chapter to industrial wastewater.
- (2) Final plats ~~Preliminary plats~~ specifying general methods of sewage treatment, disposal dispersal, system designs and locations approved prior to the effective date of these regulations shall be acted upon in accordance with regulations in force at the time of preliminary plat approval for a maximum period of five years from the date of final plat approval. ~~or for an additional year beyond the effective date of these regulations, whichever assures the most lenient expiration date.~~
- (3) A valid sewage system design approval, or installation permit issued prior to the effective date of these regulations:
 - (a) Shall be acted upon in accordance with regulations in force at the time of issuance;
 - (b) Shall have a maximum validity period of five years from the date of issuance or remain valid for an additional year beyond the effective date of these regulations, whichever assures the most lenient expiration date; and
 - (c) May be modified to include additional requirements if the health officer determines that a serious threat to public health exists.
- (4) The Washington state department of ecology has authority and approval over:
 - (a) Domestic or industrial wastewater under chapter 173-240 WAC; and
 - (b) Sewage systems using mechanical treatment, or lagoons, with ultimate design flows above 3,500 gallons per day.
- (5) The Washington state department of health has authority and approval over:
 - (a) Systems with design flows through any common point between 3,501~~0~~ to 14,500 gallons per day; and
 - (b) Any Large ~~On-site~~Onsite Sewage System "~~LOSS~~" for which jurisdiction has been transferred to the department of health under conditions of memorandum of agreement with the department of ecology.
- (6) The local health officer has authority and approval over;
 - (a) Systems with design flows through any common point up to 3,500 gallons per day;
 - (b) Any Large ~~On-site~~Onsite Sewage System "~~LOSS~~" for which jurisdiction has been transferred to a local health jurisdiction from the department by contract.
- (7) Where this chapter conflicts with chapters 90.48 RCW, Water Pollution Control, the requirements under those statutes apply.

246-272~~A-07001~~ Connection0025 Connection to Public Sewer System.

- (1) When adequate public sewer services are available within two hundred feet of the residence or facility, the local health officer, upon the failure of an existing onsite sewage system may:
 - (a) Require hook-up to a public sewer system; or
 - (b) Permit the repair or replacement of the onsite sewage system only if a conforming system can be designed and installed.
- (2) Except as noted in subsection (1) of this section, the owner of a failure shall abandon the OSS under WAC 246-272~~A-18501~~0300 and connect the residence or other facility to a public sewer system when:
 - (a) The distance between the residence or other facility and an adequate public sewer is two hundred feet or less as measured along the usual or most feasible route of access; and
 - (b) The sewer utility allows the sewer connection.
- (3) The owner of a residence or other facility served by a ~~Table VI~~Table IX repair as defined in WAC 246-272~~A-01001~~0010 of this chapter shall abandon the OSS according to the requirements specified in WAC 246-272~~A-18501~~0300, and connect the residence or other facility to a public sewer system when:
 - (a) Connection is deemed necessary to protect public health by the local health officer;
 - (b) An adequate public sewer becomes available within two hundred feet of the residence or other facility as measured along the usual or most economically feasible route of access; and
 - (c) The sewer utility allows the sewer connection.
- (4) Local boards of health may require a new development to connect to a public sewer system to protect public health.

~~246-272-04001~~ Alternative Systems and Proprietary Devices.

~~(1)The department:~~

~~(a)May approve guidelines for alternative systems if they are based upon:~~

- ~~(i)Sufficient theory and/or applied research to warrant guideline development; and~~
- ~~(ii)Sufficient accumulation of performance data to prove treatment standards are met; and~~
- ~~(iii)Review and recommendations by the Technical Review Committee established under WAC 246-272-23501.~~

~~(b)May maintain lists of approved methods, proprietary devices, guidelines, and alternative systems.~~

~~(c)May charge fees to cover the cost of administering an alternative system program.~~

~~(2)The local health officer or department shall only permit installation of alternative systems for which there are alternative system guidelines, or a proprietary device if it appears on the list of approved systems or devices maintained by the department under subsections (1)(a) and (1)(b) of this section.~~

~~(3)The local health officer:~~

~~(a)May require performance monitoring or sampling of any alternative system.~~

~~(b)May charge fees to cover the costs for monitoring system performance.~~

~~(c)Shall submit copies of evaluation reports to the department when alternative system performance is evaluated.~~

~~(d)Shall notify the department of alternative system approvals and failures.~~

- (4) ~~Persons desiring product inclusion on the approved list, or intending to alter an approved device or method, shall submit to the department:~~
 - (a) ~~Documentation, data, plans, or other information requested, in an acceptable format for technical evaluation to certify that the product meets all the criteria in the appropriate guidelines.~~
 - (b) ~~Required fees.~~
 - (5) ~~Persons desiring continued retention on the list of approved systems and products shall submit to the department:~~
 - (a) ~~An acceptable annual report which includes any changes in the product and certifies that the device meets appropriate guidelines; and~~
 - (b) ~~Required fees.~~
- 246-272-05001-Experimental Systems.**
- (1) ~~Persons proposing a system for inclusion on the departmental approved list of experimental systems shall submit to the department for review and approval, a written proposal which includes:~~
 - (a) ~~Description of existing theory and/or applied research supporting the application;~~
 - (b) ~~Proposed testing protocol;~~
 - (c) ~~Proposed operation, maintenance, and monitoring detail and schedules;~~
 - (d) ~~Maximum number of installations;~~
 - (e) ~~Proposed locations and uses, if multiple locations are proposed;~~
 - (f) ~~Proposed reporting detail and frequency;~~
 - (g) ~~Proposed schedule for the experimental program;~~
 - (h) ~~Name(s) of the person(s) financially responsible for the experimental program, including:~~
 - (i) ~~Routine operation and maintenance;~~
 - (j) ~~Monitoring; and~~
 - (k) ~~Repair and/or replacement of the system.~~
 - (l) ~~Verification that the proposal is consistent with the intent of this chapter, requirements of this section, and the departmental application process.~~
 - (2) ~~The local health officer:~~
 - (a) ~~May permit a limited number of specific experimental systems if:~~
 - (i) ~~The specific system is included on the department's approved list of experimental systems under subsection (5)(b) of this section;~~
 - (ii) ~~The site will accommodate the installation of a conforming system in the event of failure of the experimental system;~~
 - (iii) ~~Local agreements to provide for monitoring, sampling, testing, reporting, maintenance, repairs, and the replacement of the system in accordance with the protocol approved by the department under subsection (1) of this section are completed and signed.~~
 - (b) ~~May charge fees to cover the cost of evaluating or monitoring the experimental system.~~
 - (3) ~~After the experimental system proposal is approved, the person noted as responsible for an experimental system program on the departmental approved list shall:~~
 - (a) ~~Follow the experimental system protocol, procedures, and other related written agreements approved by the department and the local health officer;~~

- ~~(b) Monitor the experimental system and submit records as required to meet department's approval or the local health officer's permit; and~~
- ~~(c) Annually renew each state experimental system permit.~~
- ~~(4) A person desiring to install an experimental system shall:~~
 - ~~(a) Obtain a permit from the local health officer;~~
 - ~~(b) Submit a written promise to the health officer agreeing to abandon the experimental system and install a conforming system if:~~
 - ~~(i) The system fails;~~
 - ~~(ii) The performance of the experimental system is unsatisfactory; or~~
 - ~~(iii) The applicant fails to adequately monitor the experimental system and submit records as required in the department's approval or the local health officer's permit;~~
 - ~~(iv) The system components do not function as indicated by submitted documents;~~
 - ~~(v) Performance does not meet the anticipated objectives of the experiment; or~~
 - ~~(vi) The state experimental system permit is not renewed annually.~~
 - ~~(c) Provide financial guarantees, acceptable to the health officer, and a copy of the recorded covenant required under (b) of this subsection to the local health officer; and~~
 - ~~(d) Obtain through the local health officer an annually renewable state experimental system permit.~~
- ~~(5) The department:~~
 - ~~(a) Shall obtain recommendations from the technical review committee prior to issuing approval of a proposal;~~
 - ~~(b) Shall maintain a list of experimental systems that have been approved by the department, which also indicates each system's current status, application, use, and restrictions;~~
 - ~~(c) Shall monitor the performance of the experimental system, including evaluation of any failures;~~
 - ~~(d) Shall annually renew the state experimental system permit when:~~
 - ~~(i) The requirements under subsections (3)(a) and (3)(b) of this section are satisfied; and~~
 - ~~(ii) The performance of the system is satisfactory; and~~
 - ~~(e) Shall no longer apply the requirements of this section when the requirements of WAC 246-272-04001 are satisfied.~~
- ~~(6) The department and the local health officer shall not permit an experimental LOSS.~~

NEW SECTION 246-272A-0100 Sewage Technologies

(1) The department may develop Recommended Standards and Guidance to assist local health officers in permitting different types of sewage treatment and distribution technologies including the following four broad categories:

- (a) Public domain treatment technologies (e.g. sand filters);
- (b) Proprietary treatment technologies (e.g. aerobic treatment units and packed bed filters);
- (c) Public domain distribution technologies (e.g. gravel or generic gravel substitutes, gravity and pressure distribution methods and materials);

- (d) Proprietary distribution technologies (e.g. sub-surface drip system products or gravelless drainfield system products).

NEW SECTION 246-272A-0110 Public Domain Treatment Technologies

The local health officer may permit installation of public domain treatment technologies with design and siting criteria established in this chapter or for which there are departmental Recommended Standards and Guidance.

NEW SECTION 246-272A-0120 Proprietary Treatment Products – Certification and Registration

- (1) The local health officer may permit installation of proprietary treatment products that meet the following criteria:
 - (a) Their testing protocol and test results have been certified to meet the testing requirements of this chapter;
 - (b) The product is registered with the department;
 - (c) The technology has departmental Recommended Standards and Guidance; and
 - (e) The manufacturer has provided the local health officer with written information and instruction for recommended operation, monitoring and maintenance.
- (2) To qualify for product registration, manufacturers desiring to sell or distribute proprietary treatment products in Washington state shall:
 - (a) Verify product performance through testing using the appropriate testing protocol established in Table I and register their product with the department using the process described in WAC 246-272-XX.
 - (b) Report test results of influent and effluent sampling obtained throughout the testing period (including normal and stress loading periods) for evaluation of constituent reduction according to Table II.
 - (c) Demonstrate product performance according to [Table III](#). All 30-day averages and geometric means obtained throughout the test period (during normal and stress loading) must meet the identified threshold values to qualify for registration at that threshold level.
 - (d) For Categories 2&3, where protocol results are not presented in 30-day averages or geometric means all individual samples must meet the identified threshold value to qualify for registration at that threshold level.
- (3) Manufacturers verifying bacteriological reduction performance by sampling for fecal coliform while the product is tested according to ANSI/NSF 40 — Residential Wastewater Treatment Systems testing protocol shall:
 - (a) Obtain samples drawn from the influent and effluent stream, identifying the treatment performance achieved by the full treatment process (component or [sequence train](#));
 - (b) Obtain influent characteristics falling within a range of $10^6 - 10^8$ fecal coliform/100mL.
 - (c) Report the geometric mean of fecal coliform test results from all samples drawn within 30-day or monthly calendar periods;
 - (d) Obtain a minimum of three grab samples per week throughout the testing period (including design and stress loading periods);
 - (e) Obtain samples for fecal coliform analysis, one grab sample each week from the three daily design loading periods during the design loading periods of the test. During the stress loading periods of the test, grab samples shall be obtained during times of hydraulic loading; ~~and~~ [and](#)
 - (f) Conduct analysis according to Standard Methods and report the individual results of all samples drawn throughout the test period (design & stress loading).

- (4) Manufacturers verifying product performance through testing according to ANSI/NSF 40 — Standard for Wastewater Technology — Residential Wastewater Treatment Systems or NSF/ANSI Standard 41: Non-Liquid Saturated Treatment Systems or NSF Protocol P157 Electrical Incinerating Toilets - Health and Sanitation shall have product testing conducted by a testing facility accredited by American National Standards Institute (ANSI).
- (5) Manufacturers verifying product performance through testing according to EPA/NSF — Protocol for the Verification of Wastewater Treatment Technologies or the Protocol for the Verification of Residential Wastewater Treatment Technologies for Nutrient Reduction / USEPA Environmental Technology Verification Program shall have product testing conducted by a testing facility meeting the requirements established by the Testing Organization and the Verification Organization, consistent with the test protocol and plan.

TABLE XXTABLE I

<i>Testing Protocol Requirements for Proprietary Treatment Products</i>	
<i>Treatment Component / Sequence Train Category</i>	<i>Required Testing Protocol</i>
Category 1 Designed to treat typical-strength residential wastewatersewage .	ANSI/NSF 40 — Residential Wastewater Treatment Systems (protocols dated between July 1996 and the effective date of these rules) ANSI — American National Standards Institute NSF International — National Sanitation Foundation International
Category 2 Designed to treat high-strength non-residential or commercial wastewatersewage (such as at restaurants, grocery stores, mini-marts, group homes, medical clinics, etc.)	EPA/NSF Protocol for the Verification of Wastewater Treatment Technologies / EPA Environmental Technology Verification (April 2001)
Category 3 Designed to treat high-strength residential wastewatersewage	
Category 4 Designed to treat only the blackwater component of residential wastewatersewage (such as composting and incinerating toilets).	NSF/ANSI Standard 41: Non-Liquid Saturated Treatment Systems NSF Protocol P157 Electrical Incinerating Toilets - Health and Sanitation ANSI — American National Standards Institute NSF International — National Sanitation Foundation International
Total Nitrogen Reduction in Categories 1 — 3	Protocol for the Verification of Residential Wastewater Treatment Technologies for Nutrient Reduction / USEPA Environmental Technology Verification Program (November, 2000)

~~TABLE XXX~~TABLE II

<i>Test Results Reporting Requirements for Proprietary Treatment Products</i>	
<i>Treatment Component /Train Sequence Category</i>	<i>Testing Results Reported</i>
Category 1 Designed to treat typical-strength residential sewage.	<p>Report test results of influent and effluent sampling obtained throughout the testing period (including normal and stress loading periods) for evaluation of constituent reduction for the parameters: CBOD₅, and TSS:</p> <div style="display: flex; flex-wrap: wrap;"> <div style="width: 50%;"><input type="checkbox"/> Average</div> <div style="width: 50%;"><input type="checkbox"/> Standard Deviation</div> <div style="width: 50%;"><input type="checkbox"/> Minimum</div> <div style="width: 50%;"><input type="checkbox"/> Maximum</div> <div style="width: 50%;"><input type="checkbox"/> Median</div> <div style="width: 50%;"><input type="checkbox"/> Interquartile Range</div> <div style="width: 100%;"><input type="checkbox"/> 30-day Average (for each month)</div> </div> <p>When testing for bacteriological reduction performance, report fecal coliform test results of influent and effluent sampling by geometric mean from samples drawn within 30 day or monthly calendar periods, obtained from a minimum of three samples per week throughout the testing period (including normal and stress loading periods). Test report must also include the individual results of all samples drawn throughout the test period.</p>
Category 2 Designed to treat high-strength non-residential or commercial sewage (such as at restaurants, grocery stores, mini-marts, group homes, medical clinics, etc.)	<p>Report test results of Influent and effluent sampling obtained throughout the testing period (including normal and stress loading periods) for evaluation of constituent reduction for the parameters: CBOD₅, FOG and TSS</p> <p>Test report must also include the individual results of all samples drawn throughout the test period.</p>
Category 3 Designed to treat high-strength residential sewage	<p>Report test results of Influent and effluent sampling obtained throughout the testing period (including normal and stress loading periods) for evaluation of constituent reduction for the parameters: CBOD₅, and TSS</p> <p>Test report must also include the individual results of all samples drawn throughout the test period.</p>
Category 4 Designed to treat only the blackwater component of residential sewage (such as composting and incinerating toilets).	Report test results according to the format prescribed in the NSF test protocol, reporting on all performance criteria required by the protocol.
Total Nitrogen Reduction in Categories 1 — 3	Report test results according to the format prescribed in the test protocol, reporting on all performance criteria required by the protocol.

~~TABLE XXXX~~TABLE III

Product Performance Requirements for Proprietary Treatment Products						
Treatment Component / Train Sequence Category		Product Performance Requirements				
Category 1 Designed to treat typical-strength residential wastewater <u>sewage</u> .	Treatment System Performance Testing Levels					
	Level	Parameters				
		CBOD ₅	TSS	FOG	FC	TN
	A	10 mg/l	10 mg/l	—	200 / 100 ml	—
	B	15 mg/l	15 mg/l	—	1,000 / 100 ml	—
	C	25 mg/l	30 mg/l	—	50,000 / 100 ml	—
	D	25 mg/l	30 mg/l	--	--	--
	E	200 mg/l	80 mg/l	20 mg/l	—	—
	N	—	—	—	—	20 mg/l
	Values for Levels A — E are 30-day values (averages for CBOD ₅ , TSS, & FOG; geometric mean for FC) All 30-day averages throughout the test period must meet these values in order to be registered at these levels. Values for Level N are derived from <u>a 90-day average full test average</u> .					
Category 2 Designed to treat high-strength non-residential or commercial sewage (such as at restaurants, grocery stores, mini-marts, group homes, medical clinics, etc.)	When test protocol provides results in 30-day averages, test results must establish product performance effluent quality meeting Level E, above. All 30-day averages throughout the test period must meet these values in order to be registered at this level. When test protocol does not provide results in 30-day averages, all test results must establish product performance effluent quality equal to or less than 200 mg/l CBOD ₅ , 125 mg/l TSS, and 25 mg/l FOG.					
Category 3 Designed to treat high-strength residential wastewater <u>sewage</u>	When test protocol provides results in 30-day averages, test results must establish product performance effluent quality meeting Level E, above. All 30-day averages throughout the test period must meet these values in order to be registered at this level. When test protocol does not provide results in 30-day averages, all test results must establish product performance effluent quality within 100 — 300 mg/l CBOD ₅ , and within 100 — 350 mg/l TSS.					
Category 4 Designed to treat only the blackwater component of residential sewage (such as composting and incinerating toilets).	Test results must meet the performance requirements established in the NSF test protocol.					
Total Nitrogen Reduction in Categories 1 — 3	Test results must establish product performance effluent quality meeting Level N, above when presented as <u>a 90-day average the full test average</u> .					

NEW SECTION 246-272A-0125 Proprietary Treatment Product Registration – Process and requirements

- (1) Manufacturers shall register their proprietary treatment product(s) by submitting a complete application on the form or in the format provided by the department, including:
 - (a) Manufacturer name and mailing address.
 - (b) Contact individual name, mailing address, street address, and phone number. The contact individual must be vested with the authority to represent the manufacturer in this capacity.
 - (c) Name, including specific brand and model, of the proprietary treatment product.
 - (d) A description of the function of the proprietary treatment product along with any known or projected limitation on the use of the product.
 - (e) Product description and technical information, including process flow drawings & schematics; materials & characteristics; component design specifications; design capacity, volumes and flow assumptions & calculations; components; drawings & photos
 - (f) Siting & installation requirements
 - (g) Detailed description, procedure and schedule of routine service and system maintenance events.
 - (h) Identification of information that is subject to protection from disclosure for trade secrets.
 - (i) Copies of product brochures & manuals: Sales & Promotional; Design; Installation; Operation & Maintenance; and Homeowner Instructions.
 - (j) The product test protocol and results report.
 - (k) A signed and dated certification by the manufacturer's agent specifically including the following statement, "I certify that I represent (INSERT MANUFACTURING COMPANY NAME) and I am authorized to prepare or direct the preparation of this application for registration. I attest, under penalty of law, that this document and all attachments are true, accurate, and complete. I understand and accept that the product testing results reported with this application for registration are the parameters and values to be used for determining conformance with Treatment System Performance Testing Levels established in chapter 246-272 WAC."
 - (l)** A signed and dated certification from the testing entity including the statement, "I certify that I represent (INSERT TESTING ENTITY NAME), that I am authorized to report the testing results for this proprietary treatment product. I attest, under penalty of law, that the report about the test protocol and results is true, accurate, and complete."
 - (m)** The fee described in 246-272-990.
- (2) Products within a single series or model line (sharing distinct similarities in design, materials, capacities) may be registered under a single application, consistent with the provisions of their test protocol for the certification of other products within a product series. Products outside of the series or model line must be registered under separate applications.

- (3) All registrations are valid for up to one year, expiring on December 31, of each year. Required fees are not prorated.
- (4) In order to renew technology registration, a manufacturer shall:
 - (a) Apply for renewal of product registration using the form or in the format provided by the department.
 - (b) Provide an affidavit to the department verifying whether or not the product has changed over the previous year. If the product has changed, the affidavit must also include a full description of the changes.
 - (c) Submit the fee established in 246-272A-0990.
- (5) Products undergoing modifications that affect performance are subject to meeting the application requirements for initial registration.
- (6) Manufacturers with treatment products on the department's List of Approved Systems and Products (does not include products on the list of Experimental Systems) before the effective date of these rules may apply for registration within six months of the effective date of these rules using the following information:
 - (a) If product approval was based on performance test results obtained from testing conducted according to a NSF Standard 40 protocol dated prior to July 1996, they may apply for registration as established by these rules using the performance test results obtained by a qualified testing facility from testing conducted according to a NSF Standard 40 test protocol dated prior to July 1996. If an excursion allowance is used in reporting the results of product testing, the excursion allowance provided in 1996 and later NSF protocols must be used. Thirty-day averaging of sample results must meet the requirements established in 1996 and later NSF protocols. This provision is valid for only those models listed.
 - (b) If product approval was based upon the performance information obtained through the department's former Experimental Systems program, they may apply for registration as established by these rules using the performance test results obtained from their experimental system program. This provision is valid for only those models listed.
 - (c) Test results for BOD₅ may be submitted in lieu of test results for CBOD₅. In such cases the numerical values for CBOD will be determined by the following formula: $(BOD_5 \times .83 = CBOD_5)$
 - (d) In order to be registered for treatment levels A, B or C, a manufacturer shall provide data demonstrating that each of the parameters (CBOD₅, TSS and fecal coliform) is met.
 - (e) Shall meet all other requirements established in these rules for product registration.

(7) The department shall maintain a list of proprietary treatment products meeting the registration requirements established in this chapter. Such product registration is a condition of approval for use (WAC 246-272A-0120(1)(b)).

NEW SECTION

246-272A-0126 Disinfection Products – Testing requirements

- (1) Disinfection products shall be tested to verify fecal reduction ability. In lieu of a testing protocol specifically for disinfection products, manufacturers may use the protocol listed in WAC 246-272A-0120(3) to verify fecal reduction in combination with another treatment product.
- (2) For ultraviolet lamp testing, the following parameter/constituents will be tested and reported at each occasion of sampling for fecal coliform:

- (a) Effluent flow rate;
- (b) PH
- (c) Temperature;
- (d) Turbidity; and
- (e) Color.

Additionally, all maintenance, including instances of cleaning of the UV lamp shall be reported. Such maintenance will be required as part of the operation and maintenance of the device when installed in the field.

NEW SECTION

246-272A-0130 Public Domain Distribution Technologies

Local health officers may permit installation of public domain distribution technologies with design and siting criteria established in this chapter or for which there are departmental Recommended Standards and Guidance.

NEW SECTION

246-272A-0140 Proprietary Distribution Products—Criteria and Registration

- (1) The local health officer may permit installation of proprietary distribution products that meet the following requirements:
 - (a) The product has been certified by a professional engineer to meet the design criteria established in this chapter;
 - (b) The product is registered with the department;
 - (c) The technology has departmental Recommended Standards and Guidance; and
 - (d) The manufacturer has provided the local health officer with written information and instruction for recommended operation, monitoring and maintenance.
- (2) Manufacturers desiring to sell proprietary distribution products shall certify that their product(s) meets the standards established in this chapter and register their product(s) with the department using the process described in WAC 246-272A-0145.
- (3) Proprietary distribution technologies include the following general types of categories:
 - (a) Gravelless drainfield technologies; and
 - (b) Sub-surface drip technologies.
- (4) Proprietary gravelless drainfield products shall:
 - (a) Be constructed or manufactured from materials that are non-decaying and non-deteriorating and must not leach chemicals when exposed to sewage and the subsurface soil environment.
 - (b) Provide liquid storage volume at least equal to the storage volume provided within the 30% void space of gravel in a gravel-filled drainfield. This storage volume must be established by the drainfield materials, system design and installation and must be maintained for the life of the drainfield. This requirement may be met on a lineal-foot, or on an overall drainfield–design basis.
 - (c) Provide suitable effluent distribution to the infiltrative surface at the soil interface.
 - (d) Maintain the integrity of the trench or bed. The materials used, by its nature and its manufacturer-prescribed installation procedure, must withstand the physical forces of the soil sidewalls, soil backfill and the weight of equipment used in the backfilling.
- (5) Proprietary sub-surface drip system dripline shall:

- (a) Be warranted by the manufacturer for use with [wastewatersewage](#) and resistant to root intrusion.
- (b) Incorporate emitters with a maximum nominal rated discharge of 1.3 gallons per hour. Emitter discharge rate may be controlled either by use of "pressure compensating" type emitters or with a pressure regulator.
- (c) Be color-coded purple to identify that the pipe contains non-potable water from a [wastewatersewage](#) source.

NEW SECTION

246-272A-0145 Proprietary Distribution Products –Process and Requirements

- (1) Manufacturers shall register their proprietary distribution product(s) by submitting a complete application on the form or in the format provided by the department, including:
 - (a) Manufacturer name, mailing address, street address, city/town, state, zip code, telephone and FAX;
 - (b) Contact individual name, mailing address, street address, and phone number. The contact individual must be vested with the authority to act as the agent of the manufacturer in this capacity;
 - (c) Name, including specific brand and model, of the proprietary distribution product;
 - (d) A description of the function of the proprietary distribution product along with any known or projected limitations on its use;
 - (e) Product description and technical information, including schematics; materials & characteristics; component design specifications; design capacity, volumes and flow assumptions & calculations; components; drawings & photos
 - (f) Siting & installation requirements
 - (g) Detailed description, procedure and schedule of routine service and system maintenance events.
 - (h) Identification of information that is subject to protection from disclosure for trade secrets.
 - (i) Copies of product brochures & manuals: Sales & Promotional; Design; Installation; Operation & Maintenance; and Homeowner;
 - (j) For gravelless chamber systems a quantitative description of the actual exposed trench-bottom infiltrative surface area for each model seeking registration;
 - (k) A statement from a Washington state licensed professional engineer (PE) that certifies the technology meets the standards established in WAC 246-272A-0140;
 - (l) A signed and dated certification by the manufacturer's agent specifically including the following statement, "I certify that I represent (INSERT MANUFACTURING COMPANY NAME) and I am authorized to prepare or direct the preparation of this application for product registration I attest, under penalty of law, that this document and all attachments, are true, accurate, and complete."

- (m) A signed and dated certification from the licensed professional engineer including the statement, “ I certify that I represent (INSERT PROFESSIONAL ENGINEERING FIRM NAME), that I am authorized to certify the performance characteristics for the proprietary distribution product presented in this application. I attest, under penalty of law, that the technology report is true, accurate, and complete.
 - (n) The fee established in WAC 246-272A-0990.
- (2) Products within a single series or model line (sharing distinct similarities in design, materials, capacities) may be registered under a single application. Products outside of the series or model line must be registered under separate applications.
 - (3) All registrations are valid for up to one year, expiring on December 31st of each year. Required fees are not prorated.
 - (4) Manufacturers with distribution products on the department’s List of Approved Systems and Products (does not include products on the list of Experimental Systems) on the day before the effective date of these rules:
 - (a) May apply for registration using the information previously provided, without further PE certification. This provision is valid for only those models listed and only for a period of six months from the effective date of these rules.
 - (b) If product approval was based upon the performance information obtained through the department’s former Experimental Systems program, the manufacturer may apply for registration as established by these rules using the performance test results obtained from their experimental system program, without further PE certification. This provision is valid for only those models listed and only for a period of six months from the effective date of these rules.
 - (c) Shall meet all other requirements established in these rule for product registration.
 - (5) In order to renew a proprietary distribution product registration, a manufacturer shall:
 - (a) Apply for renewal of product registration using the form or in the format provided by the department.
 - (b) Provide an affidavit to the department verifying whether or not the product has changed over the previous year. If the product has changed, the affidavit must also include a full description of the changes.
 - (c) Submit the fee established in 246-272A-0990.
 - (6) Any product undergoing modification that affects product performance is subject to the requirements for initial registration.
 - (7) [The department shall maintain a list of proprietary distribution products meeting the registration requirements established in this chapter. Such product registration is a condition of approval for use \(WAC 246-272A-0140\(1\)\(b\)\).](#)

NEW SECTION

246-272A-0170 Product Development Permits

- (1) A local health officer may issue a product development permit (PDP) for any proprietary treatment component or [train sequence](#). In order to protect public health during the development period, a complete system able to meet the requirements of this chapter and the site must be installed. The product under development may then be added to the treatment system allowing the product developer to gather data about the product’s performance in the field. The PDP allows product developers to explore and develop new technologies prior to product testing and registration under section 246-272A-[0120 and –0125](#). The PDP is not an alternative to testing and registration.

- (2) An application for a PDP shall include all of the following:
 - (a) Proof of an existing conforming system, or a permit for a conforming system. The conforming system must be installed in its entirety before the PDP becomes valid.
 - (b) A description of the product under development with performance goals and application to the treatment of [wastewatersewage](#).
 - (c) Documentation of financial assurance that any public health threats or environmental damage resulting from product development will be resolved. Instruments of financial assurance include:
 - (i) An irrevocable letter of credit in the amount acceptable to the local health officer issued by an entity authorized to issue letters of credit in Washington state;
 - (ii) Cash or security deposit to the local health jurisdiction in the amount acceptable to the local health officer; or
 - (iii) Any other financial assurance that satisfies the local health jurisdiction.
 - (d) Documentation signed by the owner of the proposed product development site allowing access to the local health officer for inspection of the site; and
 - (e) Any other information required by the local health officer.
- (3) The local health officer may stipulate additional requirements for a PDP if necessary for public health protection.
- (4) A PDP is a site-specific permit. Product development at multiple sites requires a PDP for each site.
- (5) During the term of the PDP, product development, testing and sampling are under the full control of the product developer and all data collected is considered proprietary information.
- (6) A PDP is valid for one year and may be renewed by the local health officer.
- (7) The product development period is over when the original PDP or any subsequently renewed permits have expired. At this time the product developer:
 - (a) Shall, at the direction of the local health officer, remove the product under development from the site, re-establishing all appropriate plumbing and power connections for the conforming system.
 - (b) May subject the product to performance testing described in WAC 246-272A-0120 in order to allow the product to be eligible for registration with the department.
- (8) The local health officer may revoke or amend a PDP:
 - (a) If the continued operation or presence of the product under development presents:
 - (i) A risk to the public health or the environment;
 - (ii) Adverse effects on the proper function of the conforming system on the site; or

- (iii) Leaks or discharges of sewage on the surface of the ground.
- (b) If the developer fails to comply with any requirements stipulated on the permit by the local health officer.
- (9) The local health officer may charge fees adequate to administer the PDP program.

~~246-272-08001—Large On-site Sewage Systems (LOSS).~~

- ~~(1) Persons proposing a new LOSS for which the department has jurisdiction by WAC or memorandum of agreement with the department of ecology shall meet the requirements specified in "Design Standards for Large On-site Sewage Systems," 1993, Washington state department of health (Available upon written request to the department);~~
- ~~(2) Persons shall submit the documents and fees specified under subsections (a) through (f) of this subsection and obtain approval from the department before installing a LOSS to serve any facility:~~
 - ~~(a) A preliminary report, stamped and signed by an engineer, including:~~
 - ~~(i) A discussion of the proposed project, including the schedule of construction;~~
 - ~~(ii) A discussion of compliance with other state and local zoning, platting, health, and building regulations as they relate to sewage treatment and disposal;~~
 - ~~(iii) An analysis of the site's capacity to treat and dispose of the proposed quantity and quality of sewage;~~
 - ~~(iv) An analysis of the factors identified in WAC 246-272-20501(2)(d)(ii)(A); and~~
 - ~~(v) A soil and site evaluation as specified in WAC 246-272-11001 signed by the evaluator;~~
 - ~~(vi) A management plan describing the:~~
 - ~~(A) Management entity consisting of one of the following:~~
 - ~~(I) For residential subdivisions where the lots are individually owned, a public entity serves as the primary management entity, or as the third party trust for a private management entity; or~~
 - ~~(II) For other uses, including single ownership, a public entity or a private entity via an appropriate contract or agreement provides management;~~
 - ~~(B) Duties of the management entity, including specific tasks and frequency of operation and maintenance;~~
 - ~~(C) Controls to ensure the continuity and permanency of proper operation and maintenance;~~
 - ~~(D) Methods and frequency of monitoring, record keeping, and reporting to the department;~~
 - ~~(E) Rights and responsibilities of management; and~~
 - ~~(F) Rights and responsibilities of persons purchasing connections to the LOSS.~~
 - ~~(b) Complete plans and specifications of the LOSS:~~
 - ~~(i) Showing a conventional pressure distribution system with three feet of vertical separation;~~
 - ~~(ii) Meeting all other design criteria within "Design Standards for Large On-site Sewage Systems," 1993, Department of Health. (available upon written request to the department); and~~
 - ~~(iii) Stamped and signed by an engineer;~~
 - ~~(c) A schedule of inspections to confirm the installation conforms to the plans and specifications;~~

- ~~(d) A draft operation and maintenance manual, describing the LOSS and outlining routine maintenance procedures for proper operation of the system;~~
 - ~~(e) Required fees; and~~
 - ~~(f) Other information as required by the department.~~
- ~~(3) Persons desiring to repair, modify or expand a facility served, or to be served by a LOSS shall submit all documents and fees specified under subsections (2)(a) through (2)(f) of this section, unless the department waives submission of some elements as unnecessary, and obtain approval from the department.~~
- ~~(4) The department:~~
 - ~~(a) Shall not change the terms of a project's construction approval during a two year validity period. However additional terms to protect public health may be included before granting one year approval permit extensions;~~
 - ~~(b) Shall conduct a pre-site inspection; and~~
 - ~~(c) May allow the applicant to renew approval under the initial terms for successive one-year periods if:~~
 - ~~(i) The LOSS is incomplete two years after the department's approval;~~
 - ~~(ii) The applicant requests renewal in writing; and~~
 - ~~(iii) The applicant submits required fees.~~
- ~~(5) A qualified installer shall install the LOSS.~~
- ~~(6) The applicant or applicant's agent:~~
 - ~~(a) Shall comply with all conditions set forth in the department's construction approval;~~
 - ~~(b) May request extensions to the construction approval permit; and~~
 - ~~(c) Shall comply with any additional conditions upon construction approval extensions set forth by the department, and pay required fees for renewing the approval.~~
- ~~(7) Before a new LOSS is used:~~
 - ~~(a) An engineer shall stamp, sign, and submit a LOSS construction report to the department within sixty days following the completion of construction of the LOSS including:~~
 - ~~(i) A completed form stating the LOSS was constructed in accordance with the department's approved plans and specifications; and~~
 - ~~(ii) An "as built" or "record" drawing;~~
 - ~~(b) The department shall conduct a final inspection; and~~
 - ~~(c) The owner shall:~~
 - ~~(i) Submit an operation and maintenance manual developed by an engineer for the installed LOSS to the department for review and approval; and~~
 - ~~(ii) Obtain a LOSS operating permit from the department by:~~
 - ~~(A) Completing and submitting forms to the department; and~~
 - ~~(B) Paying required fees.~~
- ~~(8) The owner of a LOSS that has been approved by the department or local health officer or constructed after July 1, 1984, shall:~~
 - ~~(a) Obtain a LOSS operating permit from the department; and~~

~~(b) Annually renew it.~~

~~(9) The owner shall annually renew the LOSS operating permit by:~~

~~(a) Continued retention of an approved management entity to operate and maintain the LOSS;~~

~~(b) Submitting a report to the department demonstrating the LOSS is operated, maintained, and monitored in accordance with this chapter and the approved operation and maintenance manual; and~~

~~(c) Submitting required fees.~~

~~(10) The department:~~

~~(a) Shall issue a LOSS operating permit to owners of LOSS meeting the requirements of subsections (1) through (7) of this section;~~

~~(b) Shall annually renew the LOSS operating permit when the owner has complied with the requirements under subsection (9) of this section;~~

~~(c) May revoke the LOSS operating permit when the:~~

~~(i) Approved management entity ceases to operate and maintain the LOSS;~~

~~(ii) Owner does not meet other conditions of the LOSS operating permit; or~~

~~(iii) LOSS fails;~~

~~(d) Shall monitor the performance of LOSS; and~~

~~(e)(b) Shall apply the requirements under WAC 246-272-16501 to failing LOSS.~~

~~(11) The department may request the assistance of the local health officer to review the site or the design or to inspect the construction of a LOSS.~~

~~(12) A local health officer and the department may enter into a contract under which:~~

~~(a) The local health officer will assume the department's responsibilities in subsections (2), (4), (6), (7)(a), (7)(b) and (7)(c)(i) of this section to regulate LOSS; and~~

~~(b) The local health officer may charge fees to a LOSS applicant or owner for services provided if the authorization for such fees is set forth in local regulations adopted under this chapter.~~

246-272A-090010200 Permits For OSS Under 3500 Gallons per Day.

(1) Prior to beginning the construction process, a person proposing the installation, repair, modification, connection to, or expansion of an OSS, shall develop and submit the following to the local health officer and obtain approval:

(a) General information including:

(i) Name and address of the property owner and the applicant at the head of each page of submission;

(ii) Parcel number and address, if available, of the site;

(iii) Source of drinking water supply;

(iv) Identification if the property is within the boundaries of a recognized sewer utility;

(v) Size of the parcel;

(vi) Type of permit for which application is being made, for example, new installation, repair, expansion, alteration, or operational;

(vii) Source of sewage, for example, residential, restaurant, or other type of business;

- (viii) Location of utilities;
 - (ix) Name of the site evaluator;
 - (x) Name ~~and signature~~ of the designer;
 - (xi) Date of application; ~~and~~
 - (xii) ~~Name Signature~~ of applicant; ~~and-~~
 - (xiii) Name and signature of owner or owner's authorized agent.
- (b) The soil and site evaluation as specified under WAC 246-272 A-0220+1001(2).
- (c) A complete, detailed, and dimensional site plan including:
- (i) Designated areas for the proposed initial system and the reserve area;
 - (ii) The location of all soil logs and other soil tests for the OSS;
 - (iii) General topography and/or slope of the site;
 - (iv) Site drainage characteristics;
 - (v) The location of existing and proposed encumbrances affecting system placement, including legal access documents if any component of the OSS is not on the lot where the sewage is generated; and
 - (vi) An arrow indicating north.
- (d) A detailed system design meeting the requirements under WAC 246-272-11501 including:
- (i) A dimensional drawing showing the location of components of the proposed OSS, and the system designed for the reserve area if reserve site characteristics differ significantly from the initial area;
 - (ii) Vertical cross-section drawings showing:
 - (A) The depth of the ~~disposal~~dispersal component, the vertical separation, and depth of soil cover; and
 - (B) Other OSS components constructed at the site.
 - (iii) Calculations and assumptions supporting the proposed design, including:
 - (A) Soil type;
 - (B) Hydraulic loading rate in the ~~disposal~~dispersal component; and
 - (C) System's maximum daily flow capacity.
- (e) Such additional information as deemed necessary by the local health officer.
- (2) The local health officer may develop the required information specified in subsection (1) of this section if authorization for such actions is included in local regulations.
- (3) The local health officer shall:
- (a) Issue a permit when the information submitted under subsection (1) of this section meets the requirements contained in this chapter and in local regulations;
 - (b) Identify the permit as a new installation, repair, expansion, modification, or operational permit;
 - (c) Specify the expiration date on the permit;
 - (d) Include a reminder on the permit application of the applicant's right of appeal; and

(e) State the period of validity and the date and conditions of renewal when requiring operational permits to be obtained and retained;

(f) Respond to an application within 30 days as required in RCW 70.05.074.

- (4) The local health officer may revoke or deny a permit for due cause. Examples include, but are not limited to:
- (a) Development or continued use of an OSS that threatens the public health;
 - (b) Misrepresentation or concealment of material fact in information submitted to the local health officer; or
 - (c) Failure to meet conditions of the permit or the regulations.
- (5) Before the local health officer issues a permit for the installation of an OSS to serve more than one development, the applicant shall show:
- (a) An approved public entity owning or managing the OSS in perpetuity; or
 - (b) ~~An arrangement with a~~ management arrangement entity acceptable to the local health officer, recorded in covenant, lasting until the ~~on-site~~onsite system is no longer needed, and containing, but not limited to:
 - (i) A legal recorded easement allowing access for construction, operation, monitoring and maintenance, and repair of the OSS; and
 - (ii) Identification of an adequate financing mechanism to assure the funding of operation, maintenance, and repair of the OSS.
- (6) The local health officer shall not delegate the authority to issue permits.
- (7) The local health officer may stipulate additional requirements for a particular permit if necessary for public health protection.

246-272A-09501.0210 Location.

- (1) Persons shall design and install OSS to meet the minimum horizontal separations shown in ~~Table I~~Table IV, Minimum Horizontal Separations:

~~TABLE I~~TABLE IV
Minimum Horizontal Separations

Items Requiring Setback	From edge of <u>soil disposal dispersal</u> component an reserve area	From septic tank holding tank, containment vessel, pump chamber, and distribution box	From building sewer, collection, and non-perforated distribution line
Non-public well or suction line	100 ft.	50 ft.	50 ft.
Public drinking water well	100 ft.	100 ft.	100 ft.
Public drinking water spring ^{3,4} <u>measured from the ordinary high water mark</u> ,	200 ft.	200 ft.	100 ft.
Spring or surface water used as drinking water source ^{12,3,4} <u>measured from the ordinary high water mark.</u>	100 ft.	50 ft.	50 ft.
Pressurized water supply line ⁴	10 ft.	10 ft.	10 ft.
Decommissioned well ⁵ <u>(decommissioned in accordance with chapter 173-160 WAC)</u>	10 ft.	N/A	N/A
Surface water ^{3,4} <u>measured from the ordinary high water mark</u> Marine water Fresh water	100 ft. 100 ft.	50 ft. 50 ft.	10 ft. 10 ft.
Building foundation	10 ft. ⁶	5 ft. ⁶	2 ft.
Property or easement line ⁶²	5 ft.	5 ft.	N/A
Interceptor / curtain drains/ drainage ditches <u>or other site features that reduce the soil depth above a restrictive layer to less than 12 inches.</u> Down-gradient ⁷² Up-gradient ⁷³	30 ft. 10 ft.	5 ft. N/A	N/A N/A
Down-gradient cuts or banks with at least 5 ft. of original, undisturbed soil above a restrictive layer due to a structural or textural change.	25 ft.	N/A	N/A
Down-gradient cuts or banks with less than 5 ft. of original, undisturbed, soil above a restrictive layer due to a structural or textural change.	50 ft.	N/A	N/A

¹ ~~"Building sewer" as defined by the most current edition of the Uniform Plumbing Code. "Non-perforated distribution" includes pressure sewer transport lines.~~

²¹ If surface water is used as a public drinking water supply, the designer shall locate the OSS outside of the required sanitary control area.

³ ~~Measured from the ordinary high water mark.~~

⁴ ~~The local health officer may approve a sewer transport line within 10 feet of a water supply line if the sewer line is constructed in accordance with section 2.4 of the department of ecology's "Criteria For Sewage Works Design," revised October 1985, or equivalent.~~

⁵ ~~Before any component can be placed within 100 feet of a well, the designer shall submit a "decommissioned water well report" provided by a licensed well driller, which verifies that appropriate decommissioning procedures noted in chapter 173-160 WAC were followed. Once the well is properly decommissioned, it no longer provides a potential conduit to groundwater, but septic tanks, pump chambers, containment vessels or distribution boxes should not be placed directly over the site.~~

⁶² The local health officer may allow a reduced horizontal separation to not less than two feet where the property line, easement line, or building foundation is up-gradient.

^{7 3} The item is down-gradient when liquid will flow toward it upon encountering a water table or a restrictive layer. The item is up-gradient when liquid will flow away from it upon encountering a water table or restrictive layer.

(2) Where any condition indicates a greater potential for contamination or pollution, the local health officer ~~or the department~~ may increase the minimum horizontal separations. Examples of such conditions include excessively permeable soils, unconfined aquifers, shallow or saturated soils, dug wells, and improperly abandoned wells.

(3) The horizontal separation between an OSS ~~disposal~~dispersal component and an individual water well, ~~individual~~ spring, or surface water can be reduced to a minimum of 75 feet, by the local health officer, and be described as a "conforming" system upon signed approval by the health officer if the applicant demonstrates:

(a) Adequate protective site specific conditions, such as physical settings with low hydro-geologic susceptibility from contaminant infiltration. Examples of such conditions include evidence of confining layers and or aquatards separating potable water from the OSS treatment zone, excessive depth to groundwater, down-gradient contaminant source, or outside the zone of influence; or

(b) Design and proper operation of an OSS system assuring enhanced treatment performance beyond that accomplished by meeting the vertical separation and effluent distribution requirements described in WAC 246-272- ~~11501(2)(f) Table IV-0230 Table VI~~; or

(c) Evidence of protective conditions involving both 3(a) and (b) of this section.

(4) Persons shall design and/or install soil dispersal ~~disposal~~ components only where:

(a) The slope is less than forty-five percent (twenty-four degrees);

(b) The area is not subject to:

(i) Encroachment by buildings or construction such as placement of swimming pools, power poles, ~~and subsurface stormwater infiltration system, and~~ underground utilities;

(ii) Cover by impervious material;

(iii) Vehicular traffic; or

(iv) Other activities adversely affecting the soil or the performance of the OSS.

(c) Sufficient reserve area for replacement exists to treat and dispose 100% of the design flow;

(d) The land is stable; and

(e) Surface drainage is directed away from the site.

~~(6)~~(5) A local health officer may allow expansion of an existing on-site sewage system adjacent to a marine shoreline that does not meet the minimum horizontal separation between the ~~disposal~~dispersal component and the ordinary high water mark required by WAC 246-272-09501 ~~Table I~~Table IV, provided that:

- (a) The system meets all requirements of WAC 246-272-11501;
 - (b) The system complies with all other requirements of WAC 246-272-09501 and WAC 246-272-17501;
 - (c) Horizontal separation between the ~~disposal~~soil dispersal component and the ordinary high water mark is 50 feet or greater; and
 - (d) Vertical separation is 3 feet or greater with a conventional gravity drainfield, or 2 feet or greater with a conventional pressure distribution drainfield.
- (6) The local health officer may approve a sewer transport line within 10 feet of a water supply line if the sewer line is constructed in accordance with section C1-9 of the department of ecology's "Criteria For Sewage Works Design," revised December 1998, or equivalent.

246-272~~A-11001~~ 0220 Soil and Site Evaluation.

- (1) The local health officer or department shall permit only professional engineers, ~~qualified~~ designers and soil scientists to perform soil and site ~~evaluations~~evaluations, except:
 - (a) Where the local health officer performs the soil and site evaluation.
- (2) The person evaluating the soil and site shall:
 - (a) Record:
 - (i) A sufficient number of soil logs to evaluate conditions within:
 - (A) The initial ~~disposal~~ soil dispersal component; and
 - (B) The reserve area.
 - (ii) The ground water conditions, the date of the observation, and the probable maximum height;
 - (iii) The topography of the site;
 - (iv) The drainage characteristics of the site;
 - (v) The existence of structurally deficient soils subject to major wind or water erosion events such as slide zones and dunes;
 - (vi) The existence of designated flood plains; and
 - (vii) The location of existing ~~features~~ encumbrances affecting system placement, such as but not limited to:
 - (A) Wells and suction lines;
 - (B) Water sources and supply lines;
 - (C) Surface water and subsurface stormwater infiltration areas;
 - (D) Abandoned wells;
 - (E) Outcrops of bedrock and restrictive layers;
 - (F) Buildings;
 - (G) Property lines and lines of easement;

- (H) Interceptors such as footing drains, curtain drains and drainage ditches;
 - (I) Cuts, banks, and fills;
 - (J) Driveways and parking areas;
 - (K) Existing OSS; and
 - (L) Underground utilities.
- (b) Use the soil and site evaluation procedures and terminology in accordance with ~~chapter 3 and Appendix A of the "Design Manual: On-site Wastewater Treatment and Disposal Systems", United States Environmental Protection Agency, EPA 625/1-80-012, October, 1980, chapter 5 of the Onsite Wastewater Treatment Systems Manual, EPA 625/R-00/008, February 2002~~ except where modified by, or in conflict, with this chapter (available upon ~~written~~ request to the department);
 - (c) Use the soil names and particle size limits of the United States Department of Agriculture Soil Conservation Service classification system;
 - (d) Determine texture, structure, compaction and other soil characteristics that affect the treatment and water movement potential of the soil by using normal field and/or laboratory procedures such as particle size analysis; and
 - (e) Classify the soil as in ~~Table H~~Table V, Soil Textural Classification:

TABLE HTABLE V
Soil Textural Classification

Soil Type	Soil Textural Classifications
1A	Gravelly and V <u>very gravelly¹ coarse sands or coarser, all extremely gravelly soils excluding Soil Types 5 and 6, all soil types with greater than or equal to 90% rock fragments.</u> All extremely gravelly² soils.
1B	Very gravelly medium sand, very gravelly fine sand, very gravelly very fine sand, very gravelly loamy sands.
2 Error! Bookmark not defined.	Coarse sands (also includes ASTM C-33 sand).
2	Medium sands.
3	<u>Medium sands, Fine sands,</u> loamy coarse sands, loamy medium sands.
4	<u>Fine sands</u> Very fine sands, loamy fine sands, loamy very fine sands, sandy loams, loams.
5	<u>Very fine sands, loamy very fine sands; or S</u> silt loams, sandy clay loams, clay loams and silty clay loams with a moderate or strong structure (excluding platy structure) that are porous and have well developed structure.
6	Other silt loams, sandy clay loams, clay loams, silty clay loams.
7 Unsuitable for treatment or disposal <u>dispersal</u>	Sandy clay, clay, silty clay, and strongly cemented or firm soils, <u>soil with a moderate or strong platy structure, any soil with a massive structure, any soil with expanding clays.</u>

~~Very Gravelly =>35% and <60% gravel and coarse fragments, by volume.~~

~~2 Extremely Gravelly =>60% gravel and coarse fragments, by volume.~~

(3) The owner of the property or his agent shall:

(a) Prepare the soil log excavation to:

(i) Allow examination of the soil profile in its original position by:

(A) Excavating pits of sufficient dimensions to enable observation of soil characteristics by visual and tactile means to a depth three feet deeper than the anticipated bottom infiltrative surface of the soil dispersal component ~~disposal component~~; or

(B) Stopping at a shallower depth if a water table or restrictive layer is encountered; and

(ii) Allow determination of the soil's texture, structure, color, bulk density or compaction, water absorption capabilities or permeability, and elevation of the highest seasonal water table; and

(b) Assume responsibility for constructing and maintaining the soil log excavation in a manner to prevent reduce potential for physical injury by as required by chapter 296-155 WAC.

~~(i) Placing excavated soil no closer than 2 feet of the excavation;~~

~~(ii) Providing a ladder, earth ramp or steps for safe egress to a depth of 4 feet, then scoop out a portion from the floor to gain the additional 2 foot depth necessary to observe the 6 feet of soil face, however the scooped portion is not to be entered~~

~~(iii) Provide a physical warning barrier around the excavation's perimeter; and~~

~~(iv) Fill the excavation upon completion of the soil log.~~

(4) The local health officer:

(a) Shall render a decision on the height of the water table within 12 months of receiving the application under precipitation conditions typical for the region;

(b) May require water table measurements to be recorded during months of probable high-water table conditions, if insufficient information is available to determine the highest seasonal water table;

(c) May require any other soil and site information affecting location, design, or installation; and

(d) May reduce the required number of soil logs for OSS serving a single family residence if adequate soils information has previously been developed.

246-272A-11501.0230 Design Requirements - General

(1) ~~The local health officer shall require that on-~~Onsite sewage systems shall be designed only by professional engineers, licensed under chapter 18.43 RCW or onsite sewage treatment system licensed designers licensed, qualified under chapter 18.210 RCW. designers, except:

(a) Where at the discretion of the local health officer a resident owner of the single family residence is allowed to design a system for that residence; or

(b) The local health officer performs the soil and site evaluation and develops the design.

(2) The local health officer ~~and the department~~ shall require the following: ~~design criteria:~~

(a) All ~~the~~ sewage from the building served is directed to the OSS;

(b) Sewage tanks that have been reviewed and approved by the department;

~~(b)(c)~~ Drainage from the surface, footing drains, roof drains, and other non-sewage drains is prevented from entering the OSS, and the area where the OSS is located, and the reserve area;

~~(c)(d)~~ The OSS is designed to treat and dispose of the anticipated design flow and quality following flows:

- (i) For single family residences, a minimum design flow of 120 gallons per bedroom per day, with a minimum of 240 gallons per day, unless technical justification is provided to support calculations using a lower design flow;

(ii)

For other facilities, the design flows noted in ~~"Design Manual: On-site Wastewater Treatment and Disposal Systems"~~ "Onsite Wastewater Treatment Systems Manual", United States Environmental Protection Agency, EPA-625/~~1-80-012, October, 1980~~R-00/008, February 2002 (available upon ~~written~~ request to the department). If the type of facility is not listed in the EPA design manual, ~~design flows from one of the following documents are used:~~ design flow information from comparable facilities may be used at the discretion of the local health officer. "Design Standards for Large On-site Sewage Systems," 1993, Washington state department of health (available upon request to the department); or "Criteria for Sewage Works Design", revised October 1985, Washington state department of ecology (available upon written request to the department of ecology).

- (iii) When designing for sewage quality the following shall be considered:

(A) CBOD₅, TSS, and FOG;

(B) Other parameters that can adversely affect treatment anywhere along the treatment sequence. Examples include pH, temperature and DO;

(C) The sensitivity of the site where the OSS will be installed. Examples include areas where fecal coliform constituents can result in public health concerns, such as shellfish growing areas, designated swimming areas, etc. Fecal coliform constituents that create concerns due to a specific site sensitivity. Examples include shellfish growing areas, designated swimming areas, etc.

(D) Nitrogen, where it has been identified by a local health jurisdiction as a contaminant of concern, shall be addressed through lot size and/or treatment.

~~(g)~~(e) Treatment Levels:

- (i) Requirements for matching Treatment Component and method of distribution with soil conditions of the Soil Dispersal Component are listed in Table VI. The Treatment Levels correspond with those established for Treatment Components under the product performance testing requirements in WAC 246-272A-0120. For reference the treatment levels are reprinted here:

<u>Treatment System Performance Testing Levels</u>					
<u>Level</u>	<u>Parameters</u>				
	<u>CBOD₅</u>	<u>TSS</u>	<u>FOG</u>	<u>FC</u>	<u>TN</u>
<u>A</u>	<u>10 mg/l</u>	<u>10 mg/l</u>	<u>==</u>	<u>200 / 100 ml</u>	<u>==</u>
<u>B</u>	<u>15 mg/l</u>	<u>15 mg/l</u>	<u>==</u>	<u>1,000 / 100 ml</u>	<u>==</u>
<u>C</u>	<u>25 mg/l</u>	<u>30 mg/l</u>	<u>==</u>	<u>50,000 / 100 ml</u>	<u>==</u>
<u>D</u>	<u>25 mg/l</u>	<u>30 mg/l</u>	<u>==</u>	<u>==</u>	<u>==</u>
<u>E</u>	<u>200 mg/l</u>	<u>80 mg/l</u>	<u>20 mg/l</u>	<u>==</u>	<u>==</u>

~~Methods for effluent distribution shall correlate to Soil Types 1A through Soil Type 6 as described by TABLE IV of this section, except where local regulations approved by the department under WAC 246-272-02001 are more stringent:~~

(ii) Disinfection products may not be used to meet the minimum treatment level requirements in the following situations:

(A) For Type 1 soils; or

(B) On sites that require products tested to meet treatment level C

TABLE IV

Methods Of Effluent Distribution For Soil Types And Depths

	Vertical Separation			
Soil Type	< 1 foot	≥ 1 foot to < 2 feet	≥ 2 feet to < 3 feet	≥ 3 feet
1A	Not allowed	Pressure Distribution (see note) ^{1&2}	Pressure Distribution (see note) ¹	Pressure Distribution (see note) ¹
2A	Not allowed	Pressure Distribution (see note) ^{1&2}	Pressure Distribution	Pressure Distribution
1B-6	Not allowed	Pressure Distribution (see note) ^{1&2}	Pressure Distribution	Gravity Distribution

¹—System meeting Treatment Standard 2 required.

Mound systems installed where the original, undisturbed, unsaturated soil depth is between 12 and 18 inches, require pretreatment by an intermittent sand filter.

TABLE VI

Treatment Component Performance Levels and Method of Distribution

<u>Vertical Separation</u>	<u>Soil Type</u>			
	<u>1</u>	<u>2</u>	<u>3-4</u>	<u>5-6</u>
<u>12" < 18"</u>	<u>A – pressure</u>	<u>B - pressure</u>	<u>B - pressure</u>	<u>B - pressure</u>
<u>≥18" < 24"</u>	<u>B – pressure</u>	<u>B – pressure</u>	<u>B – pressure</u>	<u>B – pressure</u>
<u>≥24" < 36"</u>	<u>B- pressure</u>	<u>C – pressure</u>	<u>E – pressure</u>	<u>E – pressure</u>
<u>≥36" < 60"</u>	<u>B – pressure</u>	<u>E – pressure</u>	<u>E – gravity</u>	<u>E – gravity</u>
<u>≥ 60"</u>	<u>C – pressure</u>	<u>E – gravity</u>	<u>E – gravity</u>	<u>E - gravity</u>

(3) When proposing the use of OSS for non-residential sewage, the designer shall provide the following additional information to the local health officer:

(a) Information to show the sewage is not industrial wastewater;

(b) Information to establish the sewage's quality and identify chemicals found in the sewage that are not found in residential sewage; and

(c) A design providing treatment equal to that required of residential sewage.

(4) The local health officer shall not approve designs for:

(i) Cesspools;

(ii) Seepage pits; or

(iii) Conventional gravity systems or conventional pressure distribution systems in Soil Type 1, except when an applicant meets all criteria established by WAC 246-272A-0234(34).

- (5) The local health officer may approve a design for the reserve area different from the design approved for the initial OSS, if both designs meet the requirements of this chapter for new construction;
- (6) The local health officer may allow the infiltrative surface area in a SSAS to include six inches of the SSAS sidewall height when meeting the required absorption area where total recharge by annual precipitation and irrigation is less than twelve inches per year.

246-272A-0232 Design Requirements – Sewage tanks

~~(e)~~The department shall review and approve sewage tanks. ~~Septic tanks:~~

~~(i)(a)~~ Septic Tanks shall: Are included on the approved list under subsection (5)(d) of this section;

~~(ii)(i)~~ Have at least two compartments with the first compartment liquid volume equal to ½ to 2/3 of the total liquid volume.

~~(iii)(ii)~~ Have the following minimum liquid capacities:

(A) For a single family residence use ~~Table III~~Table VII, Required Minimum Liquid Volumes of Septic Tanks:

TABLE IIITABLE VII

Required Minimum Liquid Volumes Of Septic Tanks

Number of Bedrooms	Required minimum liquid tank volume in gallons
≤ 3	900
4	1000
Each additional bedroom	250

(B) For ~~OSS treating facilities handling sewage from a residential source~~ residential sewage, other than one single family residence, 1.5 times the daily design flow with a minimum of 1000 gallons;

(C) For OSS treating sewage from a non-residential source, 3 times the daily design flow.

~~(iv)(iii)~~ Have service access manholes clean-out and inspection accesses as specified in subsection (d) section -0238 of this section within 12 inches of finished grade; and

~~(v)(iv)~~ Are designed with protection against floatation and are watertight. ground-water intrusion in high ground-water areas;

~~(f)(b)~~ Pump chambers shall:

(i) ~~Are included on the approved list under subsection (5)(d) of this section;~~

(ii) ~~Have~~Have service access manholes clean-out and inspection accesses at or above finished grade; and

(iii) Are designed with protection against floatation, and are watertight ground-water intrusion, and surface water inflow in high ground-water areas;

246-272A-0234 Design Requirements – Soil Dispersal Components

(1) All soil dispersal components shall be designed to meet the following requirements:

(a) Maximum hydraulic loading rates shall be based on the rates described in Table VIII;

~~TABLE V~~TABLE VIII
Maximum Hydraulic Loading Rate
For Residential Sewage[†]

Soil Typ	Soil Textural Classification Description	Loading Rate for residential effluent using gravity or pressure distribution gal./sq. ft./day
1A	<u>Gravelly and very gravelly coarse sands, all extremely gravelly soils excluding Soil Types 5 & 6, all soil types with greater than or equal to 90% rock fragments.</u>	Varies according to system selected to meet Treatment Standard 2 <u>1.0</u>
1B	Very gravelly medium sands, very gravelly fine sands, very gravelly very fine sands, very gravelly loamy sands.	Varies according to soil type of the non-gravel portion⁵
2A	Coarse sands (includes the ASTM C-33 sand).	1.0
2B	Medium sands	1.0
3	<u>Medium sands</u> fine sands , loamy coarse sands, loamy medium sands.	0.8
4	Very Fine sands, loamy fine sands, Loamy very fine sands , sandy loams, loams.	0.6
5	<u>Very fine sands, loamy very fine sands; or Silt silt loams that are porous and have well developed structure, sandy clay loams, clay loams and silty clay loams with a moderate structure or strong structure (excluding a platy structure)</u>	0.45 <u>0.4</u>
6	Other silt loams, sandy clay loams, clay loams, silty clay loams.	0.2
7	<u>Sandy clay, clay, silty clay and strongly cemented firm soils, soil with a moderate or strong platy structure, any soil with a massive structure, any soil with expanding clays</u>	Not useable <u>suitable</u>

[†]—Compacted soils, cemented soils, and/or poor soil structure may require a reduction of the loading rate or make the soil unsuitable for conventional OSS systems.

²—Very Gravelly = >35% and <60% gravel and coarse fragments, by volume.

~~—————³—Extremely Gravelly = >60% gravel and coarse fragments, by volume.—————~~

~~—————⁴—Due to the highly permeable nature of type 1A soil, only alternative systems which meet or exceed Treatment Standard 2 can be installed. However, a conventional gravity system may be used if it meets all criteria listed under (h) of this subsection (WAC 246-272-11501(2)(h)). The loading rate for these systems is provided in the appropriate guideline.~~

⁵ The maximum loading rate listed for the soil described as the non-gravel portion is to be used for calculating the absorption

~~surface area required. The value is to be determined from this table.~~

- (b) Calculation of the absorption area is based on the design flows in section -0230(2) and loading rates equal to or less than those in Table VIII and applied to the infiltrative surface of the soil dispersal component.
- (c) Requirements for the method of distribution shall correspond to those in Table VI;
- (d) For those systems requiring pressure distribution, time dosing is also required.
- (e) Soil dispersal components having daily design flows between 1,000 and 3,500 gallons of sewage per day:
 - (i) Are located only in Soil Types 1-5
 - (ii) Are located on slopes of less than thirty percent, or 17 degree; and
 - (iii) Have pressure distribution.
- (2) All SSAS and gravelless SSAS shall meet the following requirements:
 - (a) The calculation of absorption area is based upon the design flows in subsection -0230(2) and loading rates equal to or less than those in Table VIII, Maximum Hydraulic Loading Rate, and applied only to the infiltrative surface at the bottom of the trench or bed.
 - (b) The infiltrative surface shall not be deeper than three feet below the finished grade, except under special conditions approved by the local health officer. The depth of such system shall not exceed ten feet from the finished grade;
 - (c) A minimum of six inches of sidewall must be located in original undisturbed soil;
 - (d) The sidewall below the invert of the distribution pipe is located in original undisturbed soil;
 - (e) Beds are only designed in Soil Types 1,2,3 or in fine sands with a width not exceeding 10 feet;
 - (f) Individual laterals greater than 100 feet in length are to use pressure distribution.;
 - (g) A cover of between six and twenty-four inches of mineral soil.
- (3) Requirements specific to SSAS include:
 - (a) Clean gravel, $\frac{3}{4}$ " to 2 $\frac{1}{2}$ ", covered with a geotextile;
 - (b) For other features, conventional gravity systems shall conform with the "Onsite Wastewater Treatment Systems Manual," United States Environmental Protection Agency, EPA-625/R-00/008 February 2002, (available upon request to the department) except where modified by, or in conflict with this section or local regulations.
 - (c) Place holder for illustrations showing cross section of SSAS.**

~~(h) SSAS beds are only designed in Soil Types 2A, 2B, or 3, with a width not exceeding 10 feet;~~

~~(i)~~ (4) Designs for conventional gravity systems and conventional pressure distribution systems in Soil Type 1A are not permitted due to the inadequate treatment performance capability of coarse grained soils. However, an exception may be permitted by the local health officer if the site meets all of the following criteria:

- (i) System serves a single family residence;
- (ii) The lot size is greater than 2.5 acres;

(iii) Annual precipitation in the region is less than 25 inches per year as described by "Washington Climate" published jointly by the Cooperative Extension Service, College of Agriculture, and Washington State University (available for inspection at Washington state libraries);

~~(iv) The system is located outside all areas of special concern defined by WAC 246-272-21501(1);~~

~~(v)(iv)~~ The system is located outside the 12 ~~county~~ counties bordering Puget Sound ~~Water Quality Authority region~~; and

~~(vi)(v)~~ The geologic conditions beneath the ~~disposal~~ dispersal component must satisfy the minimum unsaturated depth requirements to groundwater identified by interpreting a readable, representative well log as determined by the local health officer. The method for determination is described by "Design Guideline for Conventional Gravity Systems In Soil Type 1-A", (Available upon ~~written~~ request to the department).

~~(Individual SSAS laterals greater than one hundred feet in length are to use pressure distribution;~~

~~(k) OSS having daily design flows between 1000 and 3,500 gallons of sewage per day;~~

~~Are located only in Soil Types 1-5;~~

~~Are located on slopes of less than thirty percent, or 17 degrees; and~~

~~Have pressure distribution;~~

~~The calculation of absorption area based upon the design flows in subsection (2)(c) of this section and loading rates equal to or less than those in Table V, Maximum Hydraulic Loading Rate for Residential Sewage, and applied only to the bottom of the trench of the excavation.~~

(ii) ~~The bottom of a SSAS shall not be deeper than three feet below the finished grade, except under special conditions approved by the local health officer. The depth of such system shall not exceed ten feet from the finished grade;~~

~~(iii) The sidewall below the invert of the distribution pipe is located in original, undisturbed soil;~~

~~——(iv) Clean gravel, covered with a geotextile; and~~

~~——(v) A cover of between six and twenty four inches of mineral soil containing no greater than 10% organic content over the gravel to preclude accumulation of water over the drainfield~~

~~(l) —— For other features, conventional gravity systems shall conform with the "Design Manual: On-site Wastewater Treatment and Disposal Systems," "Onsite Wastewater Treatment Systems Manual," United States Environmental Protection Agency, EPA-625/R-00/008 1-80-012, October, 1980 February 2002, (available upon written request to the department) except where modified by, or in conflict with this section or local regulations.~~

~~(3) Drainfields using gravelless drainfield products are sized based on the design flows in subsection 0230(2) and loading rates equal to or less than those in Table VIII, Maximum Hydraulic Loading Rate. Calculation of the infiltrative surface area varies depending upon the type of gravelless drainfield system.:~~

~~(a) Single pipe gravelless drainfields. The infiltrative surface area per lineal foot of large diameter pipe is calculated based on the outside diameter of the pipe.~~

~~Multiple pipe gravelless drainfields. The infiltrative surface area per lineal foot of multiple pipe is calculated based on the outside width of the pipe bundles in contact with the bottom of the trench or bed.~~

- ~~(b) Gravelless chamber drainfields. The infiltrative surface area per lineal foot of chamber is based on the actual internal dimensional width of the chamber space exposed at the trench or bed bottom, not the nominal size, exterior dimension or product marketing description.~~
- ~~(c) Gravel substitute drainfields. The amount of infiltrative surface area per lineal foot of gravel substitute is equal to the bottom of the trench or bed covered by the gravel substitute. Gravel substitute media must be in the same size range as gravel (3/4" to 2 1/2").~~
- (4) When proposing the use of OSS for non-residential sewage, the designer shall provide to the local health officer:
- (a) Information to show the sewage is not industrial wastewater;
 - (b) Information to establish the sewage's strength and identify chemicals found in the sewage that are not found in residential sewage; and
 - (c) A design providing treatment equal to that required of residential sewage.
- (5) The local health officer ~~or department:~~
- (a) Shall approve only OSS designs meeting the requirements of this chapter;
 - (b) Shall only permit the use of septic tanks, pump chambers, and holding tanks on the approved list under subsection (5)(d) of this section;
 - (c) Shall not approve designs for:
 - (i) Cesspools;
 - (ii) Seepage pits, ~~except as allowed for repairs under WAC 246-272-16501(4); or~~
 - (iii) Conventional gravity systems or conventional pressure distribution systems in Soil Type 1A, ~~except when an applicant meets all criteria established by WAC 246-272-11501(2)(h).~~
 - ~~(d)(c) May approve a design for the reserve area different than the design approved for the initial OSS, if both designs meet the requirements of this chapter for new construction; and~~
 - (e) May allow the hydraulic loading rate calculated for the infiltration surface area in a disposal component to include six inches of the SSAS sidewall height for determining design flow where total recharge by annual precipitation and irrigation is less than twelve inches per year.

246-272A-0236 Design Requirements – Drainfield size reductions

- ~~(1) The local health officer may allow the amount of drainfield installed to be less than that required for gravel-filled drainfields when gravelless chamber products or gravel substitute products are used provided that:~~
- ~~(i)(a) Primary and reserve areas are required based on 100 % of the loading rates provided in Table VIII;~~
 - ~~(ii)(b) Observation ports are placed in each drainfield line to observe the infiltrative surface conditions and ponding levels within the drainfield;~~
 - ~~(iii)(c) Regular observations of the drainfield are made to assure identification of pending problems in a timeframe that allows corrective action before public health is placed at risk due to a drainfield failure;~~
 - ~~(iv)(d) Drainfield size reductions allowed vary according to soil type, as follows:~~
 - ~~(A) Soil Type 1 ————— No Reduction Allowed~~
 - ~~(B) Soil Type 2 and medium sand ————— Up to 20% Reduction Allowed~~
 - ~~(C) Soil Type 3 excluding medium sand, 4, 5 & 6 Up to a 40% Reduction Allowed.~~

~~Drainfield size reduction must not exceed the manufacturer's sizing recommendations.~~

~~(v)(e) Drainfield size reductions for gravelless drainfield products may not be combined with drainfield size reduction based on effluent quality.~~

~~(g)(2) The local health officer may allow a reduction in drainfield size following wastewater treatment by technologies or products registered with the department with performance testing results for CBOD₅ 25mg/L and TSS 30mg/L. A drainfield size reduction based on this level of effluent quality is subject to the following requirements:~~

~~(i) The loading rate described in Table VIII may be increased up to a factor of 2;~~

~~(ii) Primary and reserve areas are required based on one hundred percent of the loading rates provided in Table VIII;~~

~~(iii) A distribution method that assures unsaturated flow, such as pressure distribution with time dosing, must be used; and~~

~~(iv) No other reductions in drainfield size may be permitted in conjunction with this reduction.~~

~~(3)~~

~~(3)(3) The designer shall inform the onsite sewage system owner about the benefits and risks of the choices made and of the requirements for establishing and maintaining drainfield expansion and replacement area when decisions are made regarding what type of drainfield to install and how much drainfield to install.~~

~~(6) Persons desiring to manufacture or distribute septic tanks, pump chambers, holding tanks for use in an OSS shall:~~

~~(a) Certify the product meets standards for subsection (5)(a) of this section and submit the required documentation to the department for approval when:~~

~~(i) The manufacturer or distributor needs initial departmental review and listing to allow permitting by the local health officer or department;~~

~~(ii) The department amends the applicable criteria or standards; or~~

~~(iii) The manufacturer or distributor alters the product;~~

~~(b) Submit an annual report acceptable to the department to retain departmental approval; and~~

~~(c) Pay required fees to the department~~

246-272A-0238 Design – Requirements to Facilitate Operation, Monitoring and Maintenance

(1) The OSS shall be designed to facilitate operation, monitoring and maintenance according to the following criteria:

(a) For conventional gravity systems, access for maintenance and inspection-service access at finished within twelve inches of finished grade with a permanent marker is required. If effluent filters are used, at-grade service access manholes and monitoring ports for the inlet and outlet are required.

(b) For all other systems, at grade service access and monitoring ports are required for all system components. All accesses shall be designed to allow for appropriate observation and maintenance

and shall be secured to minimize injury or unauthorized access. Specific component requirements include:

- (i) Septic Tanks with effluent filters shall have service access manholes and monitoring ports for the inlet and outlet;
 - (ii) Surge, flow equalization or other sewage tanks shall have service access manholes;
 - (iii) Other pretreatment units (including aerobic treatment units and packed-bed filters) shall have service access manholes and monitoring ports;
 - (iv) Pump chambers, tanks and vaults shall have service access manholes;
 - (v) Disinfection units shall have service access and be installed to facilitate complete maintenance and cleaning;
 - (vi) Dispersal systems shall have monitoring ports for both distribution devices and the infiltrative surface.
- (c) For systems using pumps, clearly accessible controls and warning devices are required including:
- (i) Process controls such as float and pressure activated pump on/off switches, pump-run timers and process flow controls;
 - (ii) Diagnostic tools including dose cycle counters and hour meters on the sewage stream, or flow meters on either the water supply or sewage stream; and
 - (iii) Audible and visual alarms designed to alert a resident of a critical malfunction. The alarm must be placed on an independent circuit.

246-272 ~~A-12501~~ 0240 Holding Tank Sewage Systems.

- (1) Persons shall not install or use holding tank sewage systems for residential development or expansion of residences, whether seasonal or year-round, except as set forth under subsection (2) of this section.
- (2) The local health officer may approve installation of holding tank sewage systems only:
 - (a) For permanent uses limited to controlled, part-time, commercial usage situations, such as, recreational vehicle parks and trailer dump stations.
 - (b) For interim uses limited to handling of emergency situations.
 - (c) For repairs as permitted under WAC 246-272 ~~A-16501(1)(c)(i)~~ 0280(1)(c)(i).
- (3) A person proposing to use a holding tank sewage system shall:
 - (a) Follow ~~established~~ design criteria established by the department;
 - (b) Submit a management program to the local health officer assuring ongoing operation, monitoring and maintenance before the local health officer issues the installation permit; and
 - (c) Use a holding tank ~~on the current approved list under WAC 246-272-11501(5)(d); reviewed and approved by the department.~~

246-272 ~~A-13501~~ 0250 Installation.

- (1) The local health officer ~~and the department~~ shall require approved installers to construct OSS, except as noted under subsection (2) of this section.

- (2) The local health officer may allow the resident owner of a single family residence to install the OSS for that single family residence when:
 - (a) The OSS is either located on the same lot as the residence or situated on adjoining property controlled by the owner and legally listed as an encumbrance.
- (3) The installer described by either (1) or (2) of this section shall:
 - (a) Follow the approved design;
 - (b) Have the approved design in possession during installation;
 - (c) Only install septic tanks, pump chambers, and holding tanks approved by the department;
 - (d) Be on the site at all times during the excavation and construction of the OSS;
 - (e) Install the OSS to be watertight, except for the ~~disposal~~dispersal component;
 - (f) Cover the installation only after the local health officer has given approval to cover; and
 - (g) Back fill with a minimum of between 6 and 24 inches of mineral soil and grade the site to prevent surface water from accumulating over any component of the OSS;

246-272A-14501 0260 Inspection.

- (1) The local health officer shall:
 - (a) Visit the OSS site during the site evaluation, construction, or final construction inspection;
 - (b) Either inspect the OSS before cover or allow the designer of the OSS to perform the inspection before cover if:
 - (i) The designer is qualified; and
 - (ii) The designer is not also named as installer of the system; and
 - (iii) A qualified installer installed the OSS.
 - (c) Keep the "~~as-built~~construction record" or "record" drawings on file.
 - (d) Ensure Require a notice to title be filed is filed indicating that an OSS is in use on the property and that there are the -owner responsibilities is responsible for operation and maintenance in accordance with WAC 246-272A-0270 prior to final approval of any onsite system required under WAC 264-272A-0270.
- (2) The person responsible for the final construction inspection shall:
 - (a) Assure the OSS meets the approved design; and
 - (b) Direct the person responsible for final cover of the system to place a permanent marker at finished grade where needed to identify the location of the septic tank's first manhole.
- (3) The designer or installer, as directed by the local health officer, upon completion of the new construction, alteration or repair of the OSS shall develop and submit a complete and detailed, construction record, "as-built" or "record drawing" to both the health officer and the OSS owner that include at a minimum the following:
 - (a) Measurements, accurate to within one-half foot, shall be made from at least two nearby, clearly visible objects that are likely to remain, to these parts of the OSS:
 - (i) All septic tank and pump openings needed to access;
 - (ii) The ends, and all changes in direction, of installed and found buried pipes and cables;

- (iii) Any other OSS component which, in the judgment health officer or the designer, must be accessed for observation, maintenance, or operation; and
- (iv) Location and dimensions of reserve area. of For new OSS, measurements to existing site features enabling the first tank manhole to be easily located, and a dimensioned reserve area and
- (b) Initial settings of electrical or mechanical devices which must be known to operate the system in the manner intended by the designer or installer. For repaired or altered OSS, the new, repaired, or altered components with their relationship to the existing system.
- (c) Manufacturer's standard product literature, including performance specifications and maintenance recommendations needed for operation, monitoring, maintenance or repair of the OSS.

246-272A-0270 Operation, Monitoring and Maintenance- Owner Responsibilities.

- (1) The OSS owner is responsible for properly operating, monitoring, and maintaining the OSS to minimize the risk of failure, and to accomplish this purpose, shall:
 - (a) Obtain approval from the local health officer before repairing, altering or expanding an OSS;
 - (b) Obtain and renew contracts for periodic maintenance where required by the local health jurisdiction;
 - (c) Obtain and renew operation permits where required by the local health jurisdiction;
 - (d) Determine the level of solids and scum in the septic tank once every three years Obtain a complete evaluation of the system components and/or property to determine functionality, maintenance needs and compliance with regulations and any permits;
 - (i) Once every three years for all conventional gravity systems;
 - (ii) Annually for all other systems unless otherwise specified by the local health officer.
 - (e) Employ an approved pumper to remove the septage from the tank when the level of solids and scum indicates that removal is necessary;
 - (f) Obtain maintenance and needed repairs to return the system to a proper operating condition;
 - ~~(f)~~(g) Protect the OSS area and the reserve area from:
 - (i) Cover by structures or impervious material;
 - (ii) Surface drainage, and direct drains, such as footing or roof drains. Such drainage must be directed away from the area where the OSS is located;
 - (iii) Soil compaction, for example by vehicular traffic or livestock; and
 - (iv) Damage by soil removal and grade alteration;
 - ~~(g)~~(h) Keep the flow of sewage to the OSS at or below the approved design both in quantity and waste strength;
 - ~~(h)~~Operate and maintain systems as directed by the local health officer; and
 - (i) Request assistance from the local health officer upon occurrence of a system failure; and.
 - ~~(f) Direct drains, such as footing or roof drains away from the area where the OSS is located.~~
 - (j) Disclose all known changes and maintenance to the OSS at the time of property transfer.
- ~~(2)~~(2) Persons shall not:

- (a) Use or introduce strong bases, acids or chlorinated organic solvents into an OSS for the purpose of system cleaning.
- (b) Use a sewage system additive unless it is specifically approved by the department; or
- (c) Use an OSS to dispose of waste components atypical of residential ~~wastewater~~sewage.

246-272A-15501 0275 Operation and Maintenance-- Food Service Establishments

~~(1)(2) The local health officer shall:~~

- ~~(a) Provide operation and maintenance information to the OSS owner upon approval of any installation, repair, or alteration of an OSS; and~~
- ~~(b) Develop and implement plans to:

 - ~~(i) Monitor all OSS performance within areas of special concern~~
 - ~~(ii) Initiate periodic monitoring of each OSS no later than January 1, 2000 to assure that each OSS owner properly maintains and operates the OSS in accordance with this section and in accordance with other applicable operation and maintenance requirements.~~
 - ~~(iii) Disseminate relevant operation and maintenance information through effective means routinely and upon request; and~~~~

~~(iv) Assist in distributing educational materials to OSS owners~~

~~(3) Persons shall not:~~

- ~~(a) Use or introduce strong bases, acids or chlorinated organic solvents into an OSS for the purpose of system cleaning;~~
- ~~(b) Use a sewage system additive unless it is specifically approved by the department; or~~
- ~~(c) Use an OSS to dispose of waste components atypical of residential wastewater.~~

(1) The local health officer shall require annual inspections of OSS serving food service establishments and may require pumping as needed.

~~(5) The local health officer may require the owner of the OSS to:~~

- ~~(a) Use one or more of the following management methods or another method consistent with the following management methods for proper operation and maintenance:

 - ~~(i) Obtain and comply with the conditions of a renewable or operational permit;~~
 - ~~(ii) Employ a public entity eligible under Washington state statutes to, directly or indirectly, manage the OSS; or~~
 - ~~(iii) Employ a private management entity, guaranteed by a public entity eligible under Washington state statutes or sufficient financial resources, to manage the OSS;—~~~~
- ~~(b) Evaluate any effects the OSS may have on ground water or surface water; and/or~~
- ~~(c) Dedicate easements for inspections, maintenance, and potential future expansion of the OSS.~~

~~(3) Persons may obtain a handbook with material outlining management methods to achieve proper operation, maintenance, and monitoring of OSS from the department one year after the effective date of this chapter.~~

~~(7) The local health officer may require installation of observation ports in each individual lateral or bed which extend from the bottom of the gravel to the finished grade for monitoring OSS performance.~~

246-272 ~~A-16501~~ 0280 Repair of Failures.

- (1) When an OSS failure occurs, the OSS owner shall promptly:
 - (a) Repair or replace the OSS with a conforming system or a ~~Table VI~~ Table IX repair either on the:
 - (i) Property served; or
 - (ii) Nearby or adjacent property if easements are obtained; or
 - (b) Connect the residence or facility to a:
 - (i) Publicly owned LOSS; or
 - (ii) Privately owned LOSS where it is deemed economically feasible; or
 - (iii) Public sewer; or
 - (c) Perform one of the following when requirements in subsections (1)(a) or (1)(b) of this section are not feasible:
 - (i) Use a holding tank; or
 - (ii) Obtain a National Pollution Discharge Elimination System or state discharge permit from the Washington state department of ecology issued to a public entity or jointly to a public entity and the system owner only when the local health officer determines:
 - (A) An OSS is not feasible; and
 - (B) The only realistic method of final ~~disposal~~ dispersal of treated effluent is discharge to the surface of the land or into surface water; or
 - (iii) Abandon the property.
- (2) Prior to replacing or repairing the effluent ~~disposal~~ dispersal component, the OSS owner shall develop and submit information required under WAC 246-272 ~~A-09001(1)~~ 0200(1).
- (3) The local health officer shall permit a ~~Table VI~~ Table IX repair only when:
 - (a) Installation of a conforming system is not possible; and
 - (b) Connection to either an approved LOSS or a public sewer is not feasible.
- (4) The person responsible for the design shall locate and design repairs to:

Meet the requirements of ~~Table VI~~ Table IX if the effluent treatment and ~~disposal~~ dispersal component to be repaired or replaced is closer to any surface water, well, or spring that is not used as a public water source as prescribed by the minimum separation required in Table ~~VI~~ VI of WAC 246-272 ~~A-09501~~ 0210(1). Pressure distribution with time-dosing is required in all cases.

(a);

TABLE VI
Requirements for Repair or Replacement of Disposal Components
Not Meeting Vertical and Horizontal Separations^{1,2}

Vertical Separation (in feet)	Horizontal Separation (in Feet ³)		
	<25	25—50	>50—≤100
<4	Treatment Standard 1	Treatment Standard 1	Treatment Standard 2 ⁴
4-2	Treatment Standard 1	Treatment Standard 2 ⁴	Pressure Distribution
>2	Treatment Standard 2 ⁴	Pressure Distribution	Pressure Distribution

¹ The treatment standards refer to effluent quality before discharge to unsaturated, subsurface soil.

² The local health officer may permit ASTM C-33 sand to be used as fill to prevent direct discharge of treated effluent to ground water, surface water, or upon the surface of the ground.

³ The horizontal separation indicated is the distance between the disposal component and the surface water, well, or spring. If the disposal component is up gradient of a surface water, well, or spring to be used as a potable water source, the next higher standard level of treatment shall apply unless treatment standard 1 is already being met.

⁴ Mound systems are not allowed to meet Treatment Standard 2.

TABLE IX
Treatment Component Performance Levels for Repair or Replacement of OSS Not Meeting Vertical and Horizontal Separations¹

Horizontal Separation	< 25 feet				25 < 50 feet				50 < 100 feet				>100 feet			
Vertical Separation	Soil Type				Soil Type				Soil Type				Soil Type			
	1	2	3-4	5-6	1	2	3-4	5-6	1	2	3-4	5-6	1	2	3-4	5-6
< 12" ²	A	A	A	A	A	A	A	A	A	A	B	B	B	B	B	B
≥ 12" < 18"	A	A	A	A	A	B	B	B	A	B	B	B	Conforming Systems			
≥ 18" < 24"	A	A	A	A	A	B	B	B	A	B	C	C				
≥ 24" < 36"	A	B	B	B	B	C	C	C	B	C	C	C				
≥ 36"	A	B	B	B	B	C	C	C	B	C	E	E				

¹ The treatment component performance levels correspond with those established for treatment components under the product performance testing requirements in WAC 246-272A-1020.

² The local health officer may permit ASTM C-33 sand to be used as fill to prevent direct discharge of treated effluent to ground water, surface water, or upon the surface of the ground.

~~(b)~~(a) Protect drinking water sources and shellfish harvesting areas;

(i) The horizontal separation indicated in Table IX is the distance between the soil dispersal component and the surface water, well, or spring. If the soil dispersal component is up-gradient of a surface water, well, or spring to be used as a potable water source, or beach where shellfish are harvested, the next higher treatment level shall apply unless Treatment level A is already required;

~~(e)~~(b) Prevent the direct discharge of sewage to ground water, surface water, or upon the surface of the ground;

~~(d)(c)~~ Meet the horizontal separations under WAC 246-272-09501(1) to public drinking water sources;

~~(e)(d)~~ Meet other requirements of this chapter to the maximum extent permitted by the site; and

~~(f)(e)~~ Maximize the:

- (i) Vertical separation;
- (ii) Distance from a well, spring, or suction line; and
- (iii) Distance to surface water;

~~(g)(5)~~ Disinfection products shall not be used to meet the minimum treatment level requirement on repair sites with less than 12 18 inches of vertical separation.

~~(5)(6)~~ The local health officer shall identify ~~Table VI~~Table IX repair permits for the purpose of tracking future performance.

~~(6)(7)~~ An OSS owner receiving a ~~Table VI~~Table IX repair permit from the local health officer shall:

(a) Immediately report any failure to the local health officer;

~~(b) Monitor the performance of the OSS according to the "Interim Guidelines for the Application of Treatment Standards 1 & 2, using Alternative On-site Sewage Treatment/Disposal Systems" amended August 4, 1992, (available upon written request to the department of health) and report the results to the local health officer at a minimum frequency of:~~

~~(i) Quarterly when Treatment Standard 1 is required; and~~

~~(ii) Annually when Treatment Standard 2 is required;~~

~~(e)(b)~~ Comply with all local and state requirements stipulated on the permit.

246-272 ~~A-17501~~ 0290 Expansions.

(1) The local health officer or department shall require an ~~on-site sewage system OSS~~ and a reserve area in full compliance with the new system construction standards specified in this chapter for an expansion of a residence or other facility.

246-272 ~~A-18501~~ 0300 Abandonment.

(1) Persons permanently removing a septic tank, seepage pit, cesspool, or other sewage container from service shall:

- (a) Have the septage removed by an approved pumper;
- (b) Remove or destroy the lid; and
- (c) Fill the void with soil.

246-272 ~~A-19501~~ 0310 Septage Management.

(1) An individual shall be approved by the local health officer as a qualified pumper before removing septage from an OSS.

(2) Persons removing septage from an OSS shall:

- (a) Transport septage or sewage only in vehicles clearly identified with the name of the business and approved by the local health officer;
- (b) Record and report septage removal to the local health officer.

- (c) Dispose of septage, or apply septage biosolids to land only in a manner consistent with applicable laws.

246-272~~A-20501~~ 0320 Developments, Subdivisions, and Minimum land area requirements.

- (1) A person proposing the development shall obtain approval from the local health officer prior to any development where the use of OSS is proposed.
- (2) The local health officer shall require the following prior to approving any development:
 - (a) Site evaluations as required under WAC 246-~~272-11001~~, 272A-0220, excluding subsections (3)(a)(i) and (4)(d);
 - (b) Where a subdivision with individual wells is proposed:
 - (i) Configuration of each lot to allow a 100-foot radius water supply protection zone to fit within the lot lines; or
 - (ii) Establishment of a 100-foot protection zone around each existing and proposed well site;
 - (c) Where preliminary approval of a subdivision is requested, provision of at least one soil log per proposed lot, unless the local health officer determines existing soils information allows fewer soil logs;
 - (d) Determination of the minimum lot size or minimum land area required for the development using Method I and/or Method II:

METHOD I. ~~Table VII~~Table X, Single Family Residence Minimum Lot Size or Minimum Land Area Required Per Unit Volume of Sewage, shows the minimum lot size required per single family residence. For developments other than single family residences, the minimum land areas shown are required for each unit volume of sewage.

TABLE VIITABLE X
Minimum Land Area Requirement
Single Family Residence or Unit Volume of Sewage

Type of Water Supply	Soil Type (defined by section -022011001 of this chapter)					
	1A, 1B	2A, 2B	3	4	5	6
Public	0.5 acre ⁴	12,500 sq. ft. <u>0.5 acre.</u>	15,000 sq. ft. <u>0.5 acre.</u>	18,000 sq. ft. <u>0.5 acre</u>	20,000 sq. ft. <u>0.5 acre</u>	22,000 sq. ft. <u>0.5 acre</u>
	2.5 acre ²¹					
Individual, on each lot	1.0 acre ⁴	1 acre	1 acre	1 acre	<u>2.1 acres</u>	<u>2.1 acres</u>
	2.5 acres ²¹					

⁴ ~~Due to the highly permeable nature of Soil Type 1A, only alternative systems which meet or exceed Treatment Standard 2 can be installed.~~

²¹ A conventional gravity system in Soil Type 1A is only allowed if it is in compliance with all conditions listed under WAC 246-272-~~0234(4)11501(2)(h)~~. One of these limiting conditions is a 2.5 acre minimum lot size.

METHOD II. A minimum land area proposal using Method II is acceptable only when the applicant:

(A) Justifies the proposal through a written analysis of the:

- (I) Soil type and depth;
- (II) Area drainage, and/or lot drainage;
- (III) Public health impact on ground and surface water quality;
- (IV) Setbacks from property lines, water supplies, etc;
- (V) Source of domestic water;
- (VI) Topography, geology, and ground cover;
- (VII) Climatic conditions;
- (VIII) Availability of public sewers;
- (IX) Activity or land use, present, and anticipated;
- (X) Growth patterns;
- (XI) Reserve areas for additional subsurface treatment and ~~disposal~~dispersal;
- (XII) Anticipated sewage volume;
- (XIII) Compliance with current planning and zoning requirements;
- (XIV) Possible Types of proposed use of alternative systems or designs, including the use of systems designed for removal of nitrogen;
- (XV) Existing encumbrances, such as listed in WAC 246-272~~B-09001(1)(c)(v)-0200(1)(c)(v)~~ and WAC 246-272~~B-11001(2)(a)(vii)0220(a)(vii)~~; and
- (XVI) Estimated nitrogen loading from OSS effluent to existing ground and surface water;
- ~~(XVI)~~(XVII) Any other information required by the local health officer.

(B) Shows development with public water supplies having:

- (I) At least 12,500 square feet lot sizes per single family residence;
- (II) No more than 3.5 unit volumes of sewage per day per acre for developments other than single family residences; and

(C) Shows development with individual water supplies having at least one acre per unit volume of sewage; and

(D) Shows land area under surface water is not included in the minimum land area calculation; and

(e) Regardless of which method is used for determining required minimum lot sizes or minimum land area, submittal to the health officer of information consisting of field data, plans, and reports supporting a conclusion the land area provided is sufficient to:

- (i) Install conforming OSS;
- (ii) Assure preservation of reserve areas for proposed and existing OSS;
- (iii) Properly treat and dispose of the sewage; and
- (iv) Minimize public health effects from the accumulation of contaminants in surface and ground water.

(3) The department shall develop guidelines for the application of Method II.

~~(3)~~(4) The local health officer shall require lot areas of 12,500 square feet or larger except when a person proposes:

- (a) OSS within the boundaries of a recognized sewer utility having a finalized assessment roll; or
- (b) A planned unit development with:
 - (i) A signed, notarized, and recorded deed covenant restricting any development of lots or parcels above the approved density with the density meeting the minimum land area requirements of subsection (2)(d) of this section;
 - (ii) A public entity responsible for operation and maintenance of the OSS, or a single individual owning the OSS;
 - (iii) Management requirements under ~~WAC 246-272-08001~~[chapter 246-272B](#) when installing a LOSS; and
 - (iv) Extinguishment of the deed covenant and higher density development allowed only when the development connects to public sewers.

~~(4)~~(5) The local health officer may:

~~(+)~~Allow inclusion of the area to the centerline of a road or street right-of-way in a Method II determination under subsection ~~WAC 246-272A-032020501~~(2)(d)(ii) to be included in the minimum land area calculation if:

- ~~(+)~~The dedicated road or street right-of-ways are along the perimeter of the development;
- ~~(+)~~The road or street right-of-ways are dedicated as part of the proposed development; and
- ~~(+)~~Lots are at least 12,500 square feet in size.

~~(+)~~Require detailed plot plans and OSS designs prior to final approval of subdivision proposals;

- (c) Require larger land areas or lot sizes to achieve public health protection;
- (d) Prohibit development on individual lots within the boundaries of an approved subdivision if the proposed OSS design does not protect public health by meeting requirements of these regulations; and
- (e) Permit the installation of an OSS, where the minimum land area requirements or lot sizes cannot be met, only when all of the following criteria are met:
 - (i) The lot is registered as a legal lot of record created prior to the effective date of this chapter;
 - (ii) The lot is outside an area of special concern where minimum land area has been listed as a design parameter necessary for public health protection; and
 - (iii) The proposed system meets all requirements of these regulations other than minimum land area.

~~(6)The use of a gravelless- reduced-sized drainfield does not provide for a reduction in the minimum land area requirements established in this section. Site development incorporating gravelless- reduced sized, drainfields, as provided in 246-272A-0236, must meet the minimum land area requirements established in state and local codes.~~

~~246-272-21501—Areas of Special Concern.~~

~~(+)~~The local health officer may investigate and take appropriate action to minimize public health risk in formally designated areas such as:

- ~~(a)Shellfish protection districts or shellfish growing areas;~~
- ~~(b)Sole Source Aquifers designated by the U.S. Environmental Protection Agency;~~

- ~~(c) Areas with a critical recharging effect on aquifers used for potable water as designated under Washington Growth Management Act, chapter 36.70A.170 RCW;~~
- ~~(d) Designated public water supply wellhead protection areas;~~
- ~~(e) Up gradient areas directly influencing water recreation facilities designated for swimming in natural waters with artificial boundaries within the waters as described by the Water Recreation Facilities Act, chapter 70.90 RCW;~~
- ~~(f) Areas designated by the department of ecology as special protection areas under chapter 173-200-090 WAC, Water Quality Standards for Ground Waters of the State of Washington;~~
- ~~(g) Wetland areas under production of crops for human consumption;~~
- ~~(h) Frequently flooded areas delineated by the Federal Emergency Management Agency; and~~
- ~~(i) Areas identified and delineated by the local board of health in consultation with the department to address public health threat from on-site ~~onsite~~ systems.~~
- ~~(2) The permit issuing authority may impose more stringent requirements on new development and corrective measures to protect public health upon existing developments in areas of special concern, including:~~
 - ~~(a) Additional location, design, and/or performance standards for OSS;~~
 - ~~(b) Larger land areas for new development;~~
 - ~~(c) Prohibition of development;~~
 - ~~(d) Additional operation, maintenance, and monitoring of OSS performance;~~
 - ~~(e) Requirements to upgrade existing OSS;~~
 - ~~(f) Requirements to abandon existing OSS; and~~
 - ~~(g) Monitoring of ground water or surface water quality.~~
- ~~(3) Within areas of special concern, to reduce risk of system failures, a person approved or designated by the local health officer shall:~~
 - ~~(a) Inspect every OSS at least once every three years;~~
 - ~~(b) Submit the following written information to both the local health officer and the property owner within 30 days following the inspection:~~
 - ~~(i) Location of the tank;~~
 - ~~(ii) Structural condition of the tank, including baffles;~~
 - ~~(iii) Depth of solids in tank;~~
 - ~~(iv) Problems detected with any part of the system;~~
 - ~~(v) Maintenance needed;~~
 - ~~(vi) Maintenance provided at time of inspection; and~~
 - ~~(vii) Other information as required by the local health officer.~~
 - ~~(c) Immediately report failures to the local health officer.~~

246-272A-~~22501~~ 0340 Certification of ~~Designers, Installers, Pumpers, Inspectors,~~ and Maintenance Service Providers Personnel

~~(1) Guidelines defining qualifications for designers, installers, pumpers, inspectors and maintenance personnel shall be established by the department. The guidelines shall include, but not be limited to education, experience, testing, and certification.~~

~~(1) OSS installers, and pumpers shall obtain approval from the local health officer prior to providing services within a local health jurisdiction.~~

~~(2) Local health officer may establish programs and requirements for approving maintenance service providers.~~

246-272A-~~23501~~ 0400 Technical Review Advisory Committee.

(1) The department shall:

(a) Maintain a technical advisory committee ~~consisting of a maximum of nine individuals with technical or scientific knowledge applicable to OSS whose purpose is to provide technical advice to the department; and to advise the department regarding:~~

(i) OSS design and siting;

(ii) Public domain technologies and Recommended Standards and Guidance for their use; and

(iii) Testing and design standards used for proprietary product registration and Recommended Standards and Guidance for use of proprietary products

(b) Select members for the technical advisory review committee from agencies, professions, and organizations with technical or scientific knowledge applicable to OSS including:

(i) Local health departments;

(ii) Engineering firms;

(iii) The department of ecology;

(iv) Land sales, development and building industries;

(v) Public sewer utilities;

(vi) On-site sewage system design and installation firms;

(vii) Environmental organizations;

(viii) University/college academic communities;

(ix) On-site sewage system or related product manufacturers; and

(x) Other interested organizations or groups.

(c) Convene meetings as needed.

246-272A-~~24001~~ 0410 Policy ~~State~~ Advisory Committee.

(1) The department shall:

(a) Maintain an ~~on-site~~ sewage policy advisory committee to:

(i) Make recommendations concerning departmental policy and regulations;

(ii) Review program services; and

(iii) Provide input to the department regarding the ~~on-site~~ onsite sewage program;

(b) Select members from agencies, professions, organizations having knowledge and interest in OSS, and groups which are affected by the regulations; and

- (c) Convene meetings as needed.

246-272A-~~25001~~ 0420 Waiver of State Regulations.

~~(1) For individual, site-by-site waiver requests, if concurrence is granted by the department, the local health officer may grant a waiver from specific requirements in this chapter for OSS under 3500 gallons per day only after the following procedure has been completed:~~

- ~~(a) The applicant submits a waiver application to the local health officer, including justification describing how the requested waiver is consistent with purpose and objectives to meet the public health intent of this chapter;~~
- ~~(b) If the local health officer determines that the waiver is consistent with the standards in and the intent of this chapter.~~
- ~~(c) On a quarterly basis, the local health officer will forward to the department any approved or denied waivers for their records.~~

The local health officer may grant a waiver from specific requirements adopted by the state board of health for onsite sewage systems if:

- (1) The onsite sewage system for which a waiver is requested is for sewage flows under three thousand five hundred gallons per day;
- (2) The waiver request is evaluated by the local health officer on an individual, site-by-site basis;
- (3) The local health officer determines that the waiver is consistent with the standards in, and the intent of, these rules; and
- (4) The local health officer submits quarterly reports to the department regarding any waivers approved or denied.
- (5) Based on review of the quarterly reports, if the department finds that the waivers previously granted have not been consistent with the standards in, and the intent of these rules, the department shall provide technical assistance to the local health officer to correct the inconsistency, and may notify the local and state boards of health of the department's concerns. If upon further review of the quarterly reports, the department finds that the inconsistency between the waivers granted and the state board of health standards has not been corrected the department may suspend the authority of the local health officer to grant waivers under this section until such inconsistencies have been corrected.

~~(2) The department may grant a waiver from specific requirements in this chapter for a LOSS if a person submits a completed departmental waiver application and required fee to the department, including justification showing the requested waiver is consistent with the LOSS standards in this chapter, and is consistent with the purpose and objectives of this chapter to assure public health protection.~~

~~(3) If an applicant desires to modify and resubmit a previously denied waiver request, the process described above in subsection (1) for OSS under 3500 gallons per day, or subsection (2) above for a LOSS shall be followed again.~~

246-272A-~~26001~~ 0430 Enforcement.

(1) The department or the local health officer:

- (a) Shall enforce the rules of chapter 246-272 WAC; or
- (b) May refer cases within their jurisdiction to the local prosecutor's office or office of the attorney general, as appropriate.

(2) When a person violates the provisions under this chapter, the department, local health officer, local prosecutor's office, or office of the attorney general may initiate enforcement or disciplinary actions, or any other legal proceeding authorized by law, including but not limited to any one or a combination of the following:

- (a) Informal administrative conferences, convened at the request of the department or owner, to explore facts and resolve problems;
 - (b) Orders directed to the owner and/or operator of the OSS and/or person causing or responsible for the violation of the rules of chapter 246-272 WAC;
 - (c) Denial, suspension, modification, or revocation of permits, approvals, or certification; and
 - (d) The penalties under chapter 70.05 RCW and 43.70.190;
 - ~~(d)~~ (e) Civil or criminal action.
- (3) Orders authorized under this section include the following:
- (a) Orders requiring corrective measures necessary to effect compliance with chapter 246-272 WAC which may include a compliance schedule; and
 - (b) Orders to stop work and/or refrain from using any OSS or portion of the OSS or improvements to the OSS until all permits, certifications, and approvals required by rule or statute are obtained.
- (4) Enforcement orders issued under this section shall:
- (a) Be in writing;
 - (b) Name the person or persons to whom the order is directed;
 - (c) Briefly describe each action or inaction constituting a violation of the rules of chapter 246-272 WAC, or applicable local code;
 - (d) Specify any required corrective action, if applicable;
 - (e) Specify the effective date of the order, with time or times of compliance;
 - (f) Provide notice of the consequences of failure to comply or repeated violation, as appropriate. Such notices may include a statement that continued or repeated violation may subject the violator to:
 - (i) Denial, suspension, or revocation of a permit approval, or certification; and/or
 - (ii) Referral to the office of the county prosecutor or attorney general.
 - (iii) Other appropriate remedies.
 - (g) Provide the name, business address, and phone number of an appropriate staff person who may be contacted regarding an order.
 - (h) Comply with chapter 43.70 RCW and chapter 34.05 RCW if issued by the department.
- (5) Enforcement orders shall be personally served in the manner of service of a summons in a civil action or in a manner showing proof of receipt.
- (6) The department shall have cause to deny the application or reapplication for an operational permit or to revoke, suspend, or modify a required operational permit of any person who has:
- (a) Failed or refused to comply with the provisions of chapter 246-272 WAC, or any other statutory provision or rule regulating the operation of an OSS; or
 - (b) Obtained or attempted to obtain a permit or any other required certificate or approval by misrepresentation.
- (7) For the purposes of subsection (6) of this section and WAC 246-272-27001, a person is defined to include:
- (a) Applicant;
 - (b) Re-applicant;
 - (c) Permit holder; or

- (d) Any individual associated with subsection 7 (a), (b) or (c) or this section including, but not limited to:
- (i) Board members;
 - (ii) Officers;
 - (iii) Managers;
 - (iv) Partners;
 - (v) Association members;
 - (vi) Agents; and in addition
 - (vii) Third persons acting with the knowledge of such persons.

246-272 ~~A-27001~~ 0440 Notice of decision -- Adjudicative Proceeding

- (1) All local boards of health shall:
- (a) Maintain an administrative appeals process to consider procedural and technical conflicts arising from the administration of local regulations; and
 - (b) Establish rules for conducting hearings requested to contest a local health officer's actions.
- (2) The department shall provide notice of a denial, suspension, modification or revocation of a permit, certification, or approval consistent with chapter 43.70.115 RCW, chapter 34.05 RCW, and chapter 246-10 WAC.
- (3) A person contesting a departmental decision regarding a permit, certificate, approval, or fine may file a written request for an adjudicative proceeding consistent with chapter 246-10 WAC.
- (4) Department actions are governed under the Administrative Procedure Act chapter 34.05 RCW, chapter 43.70.115 RCW, this chapter, and chapter 246-10 WAC.

246-272 ~~A-28001~~ 0450 Severability

- (1) If any provision of this chapter or its application to any person or circumstances is held invalid, the remainder of this chapter, or the application of the provision to other persons or circumstances shall not be affected.

246-272 ~~A-0990~~ Fees.

- ~~(1) The minimum fee for required review of larger on-site system's engineering reports and plans and specifications shall be four hundred dollars. If review time exceeds eight hours, fifty dollars for each additional hour or part of an hour shall be added to the minimum fee. The fee for pre-site inspections for larger on-site systems shall be one hundred dollars per visit. The fee for final inspections of larger on-site systems shall be one hundred dollars per site visit.~~
- ~~(2)(1)~~ The minimum fee for required review of proprietary devices shall be two hundred dollars. If review time exceeds four hours, fifty dollars for each additional hour or part of an hour shall be added to the minimum fee.
- ~~(3) The minimum fee for required review of experimental systems shall be four hundred dollars. If review time exceeds eight hours, fifty dollars for each additional hour or part of an hour shall be added to the minimum fee.~~

Appendix B

List of References

The following references are available on the DOH web site: <http://www.doh.wa.gov/wastewater.htm>

1. Chapter 246-272 WAC (On-Site Sewage Systems)
2. List of Approved Systems & Products (January 2003)
3. Alternative On-Site Wastewater Systems - Recommended Standards and Guidance (RS&Gs) for Performance, Application, Design, and Operation and Maintenance:
4. Aerobic Treatment Units (Effective Date: December 31, 2002)
5. Alternating Drainfields (Effective Date: April 5, 1999)
6. Disinfection Methods and Equipment - INTERIM (Effective Date: May 15, 2000)
7. Dosing Gravity Drainfield Systems (Effective Date: April 5, 1999)
8. Effluent Quality-Based Drainfields (Effective Date: May 15, 2000)
9. Glendon BioFilters (Effective July 15, 2002, Formatting corrected Sept. 16, 2002)
10. Gravelless Drainfields (Effective Date: April 5, 1999)
11. Holding Tank Sewage Systems (Effective Date: April 5, 1999)
12. Intermittent Sand Filter Systems (Effective Date: July 1, 2000)
13. Mound Systems (Effective Date: February 15, 2000)
14. Pressure Distribution (Effective Date: April 5, 1999)
15. Proprietary Packed Bed Filter Systems (Effective Date: July 1, 2001) -
16. Recirculating Gravel Filters (Effective Date: May 15, 2000)
17. Sand Lined Trench Systems (Effective Date: April 5, 1999)
18. Stratified Sand Filters Effective Date: May 15, 2000)
19. Subsurface Drip Systems (Effective Date: January 15, 2002)
20. Water Conserving Onsite Wastewater Treatment Systems (Effective Date: May 15, 2000)
21. Additional Wastewater References:
22. Basic Principles of On-Site Sewage -
23. Design Guidelines for Conventional Gravity Distribution On-Site Sewage Systems in Soil Type 1A (August 1994)
24. Design Standards for Large On-Site Sewage Systems with Design Flows Greater Than 3,500 Gallons Per Day (December 1993, Amended July 1994).
25. (U.S. EPA) (1980) Design Manual, Onsite Wastewater Treatment
26. (U.S. EPA) (Feb. 2002) Onsite Wastewater Treatment Systems Manual.
27. Granting Waivers from State On-site Sewage System Regulations
28. Chapter 246-273 WAC (On-Site Sewage System Additives)

Technical Issue Reports:

29. • Application of Treatment Standards 1 and 2
30. • Disposal Component Reductions - Highly pretreated effluent
31. • Disposal Component Reductions – Special Features and Applications of Drainfield Products -
32. • Failing Systems
33. • Hydraulic Loading Rates
34. • Linear Loading Rates
35. • Minimum Lot size
36. • Organic Loading Rates
37. • Residential Flow Rates
38. • Sand and Media Specifications
39. • Type 1 A Soil Issues
40. • Wastewater Quality / Strength / and Content

Appendix C

Onsite RDC Minority Reports

Number	Subject	Proposer
<i>1</i>	O&M - Local Plan	Bill Dewey
<i>2</i>	O&M – Plan Oversight	Bill Dewey
<i>3</i>	Minimum Land	Ed Stanton
<i>4</i>	Minimum Land	Steve Wecker
<i>5</i>	Loading Rates	Steve Wecker
<i>6</i>	Definitions	Steve Wecker

Number	Subject	Proposer
<i>7</i>	Design Table 3	Steve Wecker
<i>8</i>	Definitions	Steve Wecker
<i>9</i>	Design	Steve Wecker
<i>10</i>	Design	Steve Wecker
<i>11</i>	Design	Steve Wecker
<i>12</i>	Design	Steve Wecker

MINORITY REPORT #1

RDC member name(s)	Bill Dewey, Taylor Shellfish Company
Organization(s)	Shellfish industry
Section title	246-272A-0015 Local Management and Regulation
Page number	11
Subsection number	(1)
Preferred language	<p>(1) The local health officer shall develop a written plan <u>to be completed and approved by the local board of health through a public hearing no later than December 31, 2005</u> that will provide...</p> <p>(1) b.i. Progressively develop and maintain an inventory of all known OSS in operation within the jurisdiction.</p> <p>(1) b.ii. Evaluate and identify <u>and identify</u> those areas and systems where OSS pose and increased public health risk...</p>
Rationale	<p>One of the main reasons the shellfish industry has been involved in the OAC and RDC was to attempt to strengthen OM&M requirements. Grey language in the 1995 rules allowed minimal O&M programs and only required counties to identify shellfish growing areas as areas of special concern for added protection if they chose to.</p> <p>The revisions recommended by the RDC will result in a similar outcome if a date for completion of local onsite management plans is not included. Without a date counties may never develop them. Similarly, counties must be required not only to evaluate, but to <u>identify</u> sensitive areas such as shellfish beds for added protection.</p> <p>In (1) b.i. the inclusion of the words “all known” gives the counties an out if they don’t want to make any effort to find “unknown” septic systems. These older “unknown” systems are often what close our shellfish beds. Counties must make an effort to progressively find and manage these systems as well.</p>

MINORITY REPORT #2

RDC member name(s)	Bill Dewey, Taylor Shellfish Company
Organization(s)	Shellfish industry
Section title	246-272A-0015 Local Management and Regulation
Page number	12
Subsection number	(2)
Preferred language	<p>(2) After being approved by the local board of health through a public hearing, the local health officer <u>board of health</u> shall supply <u>submit</u> a copy of the program to the department <u>for approval</u>. <u>Within 90 days of receipt, the department shall:</u></p> <p><u>(i.) Approve the plan; or</u></p> <p><u>(ii.) Signify automatic tacit agreement with the local plan and permitting local implementation by failing to act; or</u></p> <p><u>(iii) Deny approval of the plan. If the department determines the local plan is not consistent with this chapter, the department shall provide specific reasons for denial.</u></p> <p><u>(3) Upon receipt of departmental approval or after 90 days without notification, whichever comes first, the local board shall implement the plan. The local board shall provide a copy of the adopted plan to the department.</u></p> <p><u>(4) If the department denies approval of the plan, the local board of health may:</u></p> <p><u>(a) Resubmit a revised plan for departmental consideration; or</u></p> <p><u>(b) Submit a written request for a review of the departmental denial within 120 days from the date the local board of health receives the written reasons for denial.</u></p> <p><u>(5) Upon receipt of written request for review of the departmental denial, the department shall:</u></p> <p><u>(a) Acknowledge the receipt of the request in writing; and</u></p> <p><u>(b) Form a mutually acceptable advisory panel consisting of:</u></p> <p><u>(i.) One departmental employee;</u></p> <p><u>(ii) One employee from a local health jurisdiction other than that which requested the review; and</u></p> <p><u>(iii) One member of the technical advisory committee.</u></p> <p><u>(6) If good faith efforts to reach agreement are unsuccessful, the local board of health may appeal the denial of the plan to the Washington State Board of Health for resolution.</u></p>
Rationale	<p>With 25% of U.S. households and 40% of new development (US Census Bureau) utilizing onsite sewage disposal, Washington State must be more proactive in managing these systems to protect public health. The draft rule change proposed by the RDC requires local health jurisdictions to develop written plans detailing their programs for management of onsite sewage. This proposed amendment provides essential state oversight to ensure those local plans are adequate.</p>

MINORITY REPORT #3

RDC member name(s)	Ed Stanton
Organization(s)	Building Industry Association of Washington
Section title	Developments, Subdivisions, and Minimum land area requirements
Page number	56
Subsection number	246-272A-0320
Preferred language	Change Table X back to the original Table VII, and maintain the existing minimum lot sizes required by Table VII.
Rationale	<p>* The proposed change is unnecessary because increased protection will occur through amended operation and maintenance standards, as well as new treatment levels and technology. These new standards and technology should be given a chance to work before economically harmful land restrictions are imposed. Moreover, the original directive of the OAC was to review and revise operation and maintenance provisions, not to impose new land use restrictions.</p> <p>* The TRC has not provided data that shows how or why lot restrictions are necessary to protect public health (DOH's directive), and it bases its lot size proposal on vague references and generalizations. The most recent referenced literature was published over a decade ago (some three decades ago), long before current technology and treatment methods.</p> <p>* The TRC proposal restricts density, reduces available housing, and increases the cost of homes. The Growth Management Act plans for orderly growth and expansion of urban growth areas. The TRC lot size proposal reduces planned density near UGAs and forces growth out into rural areas more quickly, the exact opposite of what the GMA envisioned.</p> <p>* The TRC did not submit its lot size proposal until the 11th hour and well after a year of intense negotiations. There was insufficient time for the RDC to review and discuss the minimum lot size proposal and its far reaching implications to property owners, the regulated community, and local government planners.</p>

MINORITY REPORT #4

RDC member name(s)	Stephen C. Wecker
Organization(s)	Designer
Section title	Developments, subdivisions, and minimum land area requirements
Page number	57
Subsection number	246-272A-0320 2 d
Preferred language	Select Version 1 over Version 2
Rationale	<p>With the basis that the current regulations are acceptable in many cases, and that they represent the minimum standard, there is no basis for moving from the current minimum lot size in the regulations (represented in Version 1.) While in many cases the lot sizes shown in the table (X) may be too small, in many cases they are appropriate and in use today. Changing is unwarranted. If site, Public Health, or environmental considerations warrant an increase in the lot size, the Health Office is empowered to make that change. The argument that other political decisions preempt these size lots is no basis for change. The factions in favor of Version 2 have failed to present a solid line of reasoning for a change.</p>

MINORITY REPORT #5

RDC member name(s)	Stephen C. Wecker
Organization(s)	Designer
Section title	Design Requirements
Page number	44
Subsection number	246-272A-0234 1 a
Preferred language	The loading rates in Table VIII should revert back to the current regulations.
Rationale	We seem to be reducing the application rate for soils in general and in other areas of the proposed regulations and guidelines allowing for increased rates through length reductions for certain materials and enhanced pretreatment. With the current situation and current application rates (which allows for the reductions) we have no documented basis of problems or systems failures attributed to the current loading rates. From a position of “why change something that isn’t broke”, and that these regulations represent minimum standards, and no documentation of problems or health threats with the current change, there is no need for a change.

MINORITY REPORT #6

RDC member name(s)	Stephen C. Wecker
Organization(s)	Designer
Section title	Definitions
Page number	7
Subsection number	246-272A-0010 “Residential Sewage”
Preferred language	Complete section with typical residential sewage parameters
Rationale	The committee agreed on the need for numbers for the various parameters. The expectation is that numbers will be inserted prior to further review.

MINORITY REPORT #7

RDC member name(s)	Stephen C. Wecker
Organization(s)	Designer
Section title	Design Requirements
Page number	22
Subsection number	246-272A-0120 5
Preferred language	Add a footnote to Table III that Level E is expected waste from a septic tank treating residential waste.
Rationale	The intent in our committee meeting was that level E is septic tank effluent from a residence. We need to clarify this confusing table as much as possible. This footnote will at least resolve the confusion over what is treatment level E.

MINORITY REPORT #8

RDC member name(s)	Stephen C. Wecker
Organization(s)	Designer
Section title	Definitions
Page number	2
Subsection number	246-272A-0010 “Additive”
Preferred language	Omit the word “Commercial” from the definition
Rationale	I still maintain that it isn’t necessary for a product to be commercially available or produced to be an additive to a sewage system. Baking soda, whether commercially produced or natural has the same effect and should be treated equally as an additive.

MINORITY REPORT #9

RDC member name(s)	Stephen C. Wecker
Organization(s)	Designer
Section title	Design Requirements
Page number	45
Subsection number	246-272A-0234 2e
Preferred language	Remove the requirement that beds can only be used in soil types 1,2,3 and no greater than 10 feet in width
Rationale	The limitation has never made a great deal of sense. The problems with beds are a matter of installation and design, not an inherent problem with the soil type of the width. The arguments presented for the current position during our committee discussion were not supportable. With the State licensing of Designers, and the new materials and methods available for disposal systems there is no need for a prohibition, only guidance on when and how to design and install beds. The 10 foot width limitation is particularly odious in lieu of the lack of a limitation when installed as sand filters, bottomless sand filters, and recirculating filters.

MINORITY REPORT #10

RDC member name(s)	Stephen C. Wecker
Organization(s)	Designer
Section title	Location
Page number	35
Subsection number	246-272A-0210 Table IV “Interceptor/curtain drains/...
Preferred language	Omit or modify
Rationale	This section is still confusing. If the owner or neighbor downslope re-contours their site so that 11 inches of soil remain, even if the slope is at a 14 to 1 grade, then the drainfield must still be setback. This becomes very burdensome when the downslope area is cut and then filled, or covered with a road. If the re-grading is upslope then a ten foot setback is required. I don’t believe this subject was given enough committee discussion time.

MINORITY REPORT #11

RDC member name(s)	Stephen C. Wecker
Organization(s)	Designer
Section title	Expansion
Page number	56
Subsection number	246-272A-0290 (1)
Preferred language	Rethink and reword this section.
Rationale	This is a complex and confusing area particularly when viewed with the definition of “Expansion.” Using both, If I have an existing <u>approved three-bedroom</u> sewage system serving a <u>two-bedroom</u> home and want to add an additional bedroom to my home, I would have to upgrade my sewage system even though it was sized originally for the increase. Likewise if I have an existing home and system and want to add another home <u>with its own system</u> on the property, I could be required to upgrade the existing system even though it will not experience an increase in flows or use. I believe this is one section in the current regulations needing to be changed that was not adequately addressed by the committee.

MINORITY REPORT #12

RDC member name(s)	Stephen C. Wecker
Organization(s)	Designer
Section title	Soil and Site Evaluation
Page number	37
Subsection number	246-272A-0220 (2) (vii) (C)
Preferred language	Omit the words “and subsurface stormwater infiltration areas”
Rationale	There is no reason to add this example into list of items. No concern with the current situation has been noted. No problems with the current wording have been shown. There is no basis, Public Health, Environmental, or otherwise for the change.

